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ATTACHMENT 1

The Case for True Urbanism

Who needs new urbanism when cities have got something much better?

By Mark Hinshaw, AICP

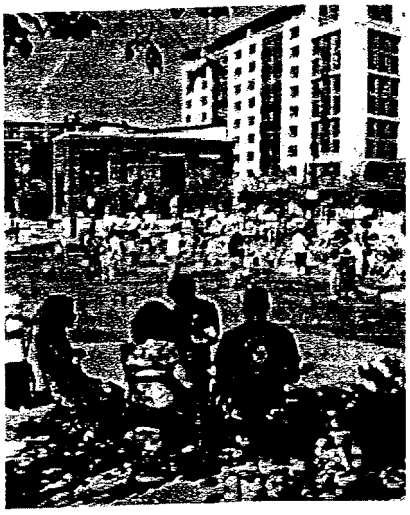
Over the last 15 years, the growth and variety of new urbanist developments has been phenomenal.

Clearly, the notion of compact, walkable communities has found appeal with developers, policy makers, and the general public.

We're now well beyond the experimental stage that produced high-profile, prototypical communities such as Seaside and Celebration. New urbanism has become more mainstream, finding its way into the plans, policies, and codes of many local governments.

Another phenomenon has been taking place, too. Although it has not had the benefit of a national organization to sing its praises, it is a movement no less significant and perhaps one that holds even more promise for the future
of cities. I call this movement "true urbanism."

Louis Wirth's urbanism



In the late 1930s, University of Chicago sociologist Louis Wirth described urbanism as a function of size, density, and heterogeneity. He suggested that the number of people located within a given geographic area — that is, its density — drives the choices found close at hand. The hallmark of true urban places, Wirth said, is that they reflect diversity: different ethnicities, races, cultures, age groups, and income levels.

This kind of urbanism — one that is richer and more complex than most new urbanist places — is increasingly found next to the downtowns of major cities across North America. Certainly, older, mature cities such as Boston, New York, and Chicago have had dense urban neighborhoods surrounding their downtown cores for many decades.

What is significant about the current trend is that it is being seen in Western cities — those that grew with the automobile and suburban expansion. These near-downtown neighborhoods meet Wirth's definition. They are large, often consuming several dozen blocks. They are dense. With a housing range of between 80 and 300 units an acre, they are much denser than new urbanist developments. And they are extraordinarily diverse. They revel in their variety of people, lifestyles, cultures, arts, and commerce.

True urbanist communities are more than merely points on an oversimplified scheme such as the new urbanist rural-to-urban "transect"; they embody a fundamentally different attitude toward living in urban places.

These places appeal to people who like being around lots of other people, who enjoy sharing sidewalks and streets, cafes and art galleries, shops and services. They see the virtue of collective spaces. In contrast to xenophobic, gated suburban subdivisions, these urban neighborhoods reflect the unpredictable, ever-changing nature of city living. People who choose to live there embrace diverse people, cultures, and lifestyles, some of which are not always pleasant and photogenic.

A typical new urbanist community is unlikely to include, say, a shelter for battered women. Or housing

that includes street-level market stalls where Hispanic families can operate small shops. Or a gay and lesbian community center. Yet all of these elements of contemporary life can be found in places that exhibit "true" urbanism.

When Pyatok Associates, the Oakland-based architectural firm, designs a housing development for a close-in neighborhood, it begins the process by canvassing the community to find out how best to meet [illegible] extended families. Michael Pyatok is critical of many new urbanist plans that are picturesque but designs empty of the physical supports that encourage organic or spontaneous economic and social arrangements."

Genuinely urban places appeal to people who are not afraid to live in the 21st century — who choose exuberant contemporary buildings over the superficial trappings of 19th century styles, which are the architectural equivalent of comfort food. Truly urban people are not afraid of height. They don't go berserk, break out petitions, and pack city council meetings to oppose anything taller than a few stories.

In places of true urbanism, tall structures are welcome, even celebrated. In these communities, larger buildings allow for many amenities and services, as well as views of water, mountains, and skyline.

Several neighborhoods flanking downtown San Diego now have dozens of new high-rise buildings containing thousands of dwelling units; they are rising out of an understory of older, low-rise structures and parking lots. The towers are architecturally bold and often unashamedly modern — no cloying traditionalism here.

Close together

High density makes sense in these close-in neighborhoods. It takes lots of people living within a relatively small area to support locally owned businesses. This should be obvious, but many people — even many city governments — fail to grasp the principle.

Many citizens bemoan the disappearance of mom-and-pop stores, the neighborhood druggist, and the local movie house — but they also lobby their city council to deny new development projects that smack of the "d" word. In trying to be responsive, some planning agencies promote mixed use and street-level retail — but at densities too low to create market demand for small businesses.

Lessons can be found in the true urbanist neighborhoods. In Seattle's Belltown, a relatively new, 36-block neighborhood already teeming with 10,000 residents, the density is great enough to support several specialty bakeries, scores of fine restaurants, drugstores, little markets, dozens of locally owned coffee shops, dry cleaners, unique clothing stores, and many businesses offering personal services.

Portland's Pearl District — carved out of former railroad land — has enough residents to support a Whole Foods supermarket. Folks in the neighborhood can shop on their walk home from work in the downtown core a few blocks away.

Living without a car

No one worries about bus schedules in Belltown. Buses travel along most neighborhood streets every five to 10 minutes — not just at peak hours, but throughout the day. The buses are free, part of downtown-wide service that encourages transit use by employees and shoppers. In Portland's Pearl District, sleek, European-style streetcars quietly glide down the center of the neighborhood, connecting it to downtown.

These places let people make smart choices. Rising gas prices and shrinking petroleum supplies suggest that we should begin looking for ways to live closer to work. Many people realize, too, that they eventually will be too old to drive. Rather than being stuck out in some isolated retirement community, these people prefer to live in real neighborhoods, with lots of choices within walking distance.

Several years ago, a Ralph's supermarket was built on the edge of downtown San Diego to serve the growing number of residents in the adjacent Marina neighborhood, packed with new high-rise towers. A new Albertson's market will anchor a mixed-use development in the city's rapidly emerging East Village neighborhood, just east of the historic Gaslamp Quarter.

Living in these dense neighborhoods makes a lot of car trips completely unnecessary. Most goods and services are available within a 10- to 15-minute walk. Some people are forgoing cars altogether, choosing to spend the $8,000 per year it takes to own, operate, insure, and park a car on a larger or more commodious place to live.

Even those who occasionally need to drive don't necessarily need to own a car. In Seattle, the "Flexcar" system works like a timeshare condominium. One buys a certain number of hours per week. The cars are stationed in convenient locations and are always clean and well maintained.

Uses of disorder

Many new urbanist communities are the product of a single developer and a handful of architects. Most are developed in phases. They are certainly pleasant, with a somewhat bland photogenic quality.

Not so with places exhibiting true urbanism. They are constantly evolving, infilling, and redeveloping. They reflect Richard Sennett's notion of the "uses of disorder." They have a gritty urbanity that values variety over uniformity. Rarely are they subject to a highly prescriptive set of design standards; rather, they revel in the idea that everything need not fit an ideal. They may be subject to design guidelines and a design review process, but those measures encourage creativity over conformity.

Areas of true urbanism host waves of different people, businesses, and buildings. Their character cannot be captured easily in still photographs. Jason Luker of the San Diego Centre City Development Corporation says that his agency's illustrated bulletin can't keep up with the changes in the city's close-in neighborhoods.

These places embrace different social needs. They differ from earlier examples of rapidly transformed urban neighborhoods, like New York City's SoHo, where gentrification pushed out the people who initially pioneered living there. In San Diego, an aggressive program of building attractive single-room-occupancy housing has ensured that many low-income individuals can continue to be a part of the downtown community. In Seattle, numerous nonprofits, aided by tax credits, state housing funds, and a taxpayer-approved low-income housing levy, have built or renovated thousands of units.

True urbanism is not the product of a singular vision. It emerges from the collective decisions of many organizations, associations, corporations, and government bodies. It values democracy — however messy, unpredictable, and uneven the results may be.

Attracting the creative class

Richard Florida, author of *The Creative Class*, says that certain cities, and certain neighborhoods within them, tend to attract people who are extraordinarily creative in their professional lives. These are people active in the arts, technology, research, and communications — activities that drive major sectors of our culture and economy.

Such people find denser, more diverse places appealing because those places tolerate different ideas, expressions, behavior, lifestyles, and sexual preferences. They offer a milieu of energy and entrepreneurialism. While creative people are fiercely independent, they value the collective social life offered by busy streets, cafes, and public spaces.

It is hard to imagine many people of the creative class choosing a new urbanist community. These developments are not dense or diverse enough to support the kind of broadly creative culture found in Belltown, the Pearl District, and the East Village.

Many of these dense, close-in neighborhoods are attracting creative people from other countries. Some bring their families — unbound by the American notion that families require single-family houses. They know that kids can be raised perfectly well in the middle of the city.

All around the central core of Vancouver, British Columbia, are dense, high-rise neighborhoods containing families with children. Through its policies and its investments, the city makes sure that these neighborhoods have schools, parks, and community centers. American cities used to do the same thing.

But in the last several decades, investments of this nature have tended to benefit outlying neighborhoods, not close-in ones.

If true urbanism were being seen in just a few, high-profile, "hip" coastal cities, it might be dismissed as limited and short-lived. But such neighborhoods are cropping up in Denver, with its "Golden Triangle," Oakland, Long Beach, and Tacoma. Even heartland cities like St. Paul, Kansas City, and Dallas are seeing aspects of this trend.

So are older suburbs that are now becoming cities in their own right. Bellevue, Washington, and Walnut Creek and Pasadena, California, are seeing thousands of units of dense, mid-rise housing being built next to the commercial cores — something that was unthinkable 10 or 15 years ago.

Investments, interventions

This fast movement towards truly urban living isn't entirely spontaneous. The public sector has been heavily involved.

San Diego's redevelopment agency has been very aggressive in acquiring and assembling land, and tax increment funds have been used to improve infrastructure and to finance affordable units. According to Michael Stepner, FAICP, formerly San Diego's city architect, the city's involvement has prevented gentrification and ensures that the new neighborhoods contain a wide range of residents.

Stepner also notes the important role of government in priming the pump. "By having the city stimulate initial housing developments," he says, "the entire image of downtown San Diego was altered. People began to perceive it as a viable place to live."

A few years ago, Portland's TriMet (the metropolitan government) built a new streetcar line to serve the burgeoning neighborhoods northwest of the downtown core. The sleek new trams loop around the dense residential and mixed-use developments in the Pearl District. In San Diego, bright red trolleys have a number of stops serving the new urban neighborhoods that surround the downtown core.

Sometimes change can be fueled by new regulations that open up opportunities for private investment. The city of Seattle rezoned the northern part of its downtown in the 1980s to limit the amount of commercial development but vastly increase housing. This move was coupled with a change in the building code that allowed a form of mid-rise, light-frame construction considerably less costly than steel or poured-in-place concrete. Since then, many thousands of units have been constructed in the Belltown neighborhood.

The Portland Development Commission has sponsored numerous high-quality projects throughout the downtown and has invested in parks and streetscape improvements. The recently opened Jamison Square, with a water fountain that children love, forms a sort of village green in the center of the Pearl District.

Places that exhibit the qualities of "true urbanism" — density, diversity, energy, and sociability — offer enormous promise for American cities. No longer are downtowns only places of commerce and culture, spectator sports, and entertainment. They are now becoming terrific places to live.

Mark Hinshaw, FAICP, is the urban design director of LMN Architects in Seattle and a frequent contributor to Planning. *Nathalie Schmidt of LMN Architects helped to research this article.*

Images: Top — A water feature in the Pearl District of Portland, Oregon. Bottom — New towers going up near downtown San Diego. Photos by Mark Hinshaw.


ROCKVILLE · MARYLAND
Areas in Rockville Which are Within Walking Distance of Transit
Metro Stations
Bus Stops
Metrobus Routes
Ride-On Bus Routes
Metro Rail
City Limits
Bus Stop Coverage (.25 mi)
Metro Station Coverage (.7mi)
N
May 2001
2000 0 2000 Feet

CITY OF ROCKVILLE
PEDESTRIAN POLICIES

August 2004
Working Draft

CITY OF ROCKVILLE PEDESTRIAN POLICIES

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PURPOSE AND BACKGROUND

A community is characterized by its attitude toward pedestrians. To many, the term "pedestrian-friendly" suggests neighborliness, a variety of transportation options, and certain levels of convenience, comfort and safety. In other words, the community's accommodation of pedestrians is a reflection of its quality of life. Even with the best of attractions to offer its citizens, a community is incomplete unless one can walk to those attractions.

Nearly everyone is a pedestrian. Even for automobile and transit users, walking is a part of travel to the workplace and the market. For some, walking is a legitimate option for the entire commuting or shopping trip. Above the subsistence level, the purposes of walking can include attending community and social functions, visiting neighbors, and simple leisure-time pleasure. In a well-balanced community, the pursuit of these endeavors is not constrained by a lack of safe pedestrian facilities, or limited to those having access to the automobile. The lack of such constraints maximizes freedom of action for groups such as children, the elderly, those with disabilities, and transit users.

Walking is not just a means of travel between an origin and a destination, but it is also healthy exercise, along with related activities like jogging. Health issues will become more significant as the general population ages, and walking has been identified as being beneficial to the maintenance of health and in the prevention and treatment of certain illnesses. From a health standpoint alone, public support for pedestrian facilities can and should be encouraged.

It cannot be said that Rockville has always been pedestrian-friendly. The City's formative years in the 1950's and 60's were spent as an automobile-oriented commuter suburb. Consistent with that "suburban" background, the attention given in those decades to pedestrian mobility was slight. With the 1970's, two energy crises and a new environmental sensitivity began to change the picture. The City's mix of employment and residents became more balanced, and the City began to focus on transportation alternatives other than the automobile. The City has since developed a greater awareness of the need to provide for pedestrian mobility--new laws have been enacted, new standards have been set, and millions of dollars have been spent in expanding, improving, and maintaining pedestrian facilities. Newer developments, such as King Farm and Fallsgrove have been designed with special consideration to pedestrians.

The physical and policy barriers created in earlier years, however, have slowed progress and/or led to the use of compromise solutions. There has been a coincident lack of cohesion in the City's overall efforts, primarily because pedestrian considerations have so often been handled as an adjunct to some "greater" effort. Pedestrian planning and design need to be regarded more comprehensively, and their intentions accorded greater weight in the choice among competing public objectives. The Mayor and Council have recognized these needs and have directed that they be addressed through the development of a unified pedestrian policy.

SCOPE

The "unified" policy proposed herein is composed of a series of individual policy statements. Intended to be a "living" document, it numbers 86 statements in its original form but is subject to

change as policies are formulated, amended, or deleted. The policy statements are written mainly from the viewpoint of what the citizen can expect from the City. Each policy statement has been assigned to one of eight topical areas, with each topic introduced by a brief section of background commentary. Most of the material contained herein is not new; rather it is largely a codification of existing policies.

One of the chief criteria in the development of these policies is consistency with established City goals. These goals have been derived from two sources, the 1989 "Goals...Rockville" Report, and the 1993 Approved Master Plan. Appendix 1 lists the applicable goals contained in those documents, which form much of the basis for the policies developed here. Sources of more specific policies include legal documents such as the Rockville City Code and Maryland Vehicle Law. Much material has also been derived from earlier summary papers, such as the Department of Public Works 1990 "Summary of Pedestrian Programs".

DEFINITIONS

In this document, the words "shall," "should," and "may" imply a specific level of application for individual policies. These words are defined as follows:

SHALL - A mandatory condition. Policies so described are required to be carried out on an ongoing basis or brought to completion as soon as possible.

SHOULD - An advisory condition, typically in the pursuit of longer term goals and frequently in recognition of restraints or other public objectives.

MAY - A permissive condition typically associated with applications that are desirable or useful in certain situations.

Wherever the word "walk" is used as a verb in this document, it is intended to refer to the movement of all those who use pedestrian facilities.

1. SIDEWALKS

Sidewalks parallel to public streets are central to any system of urban pedestrian access. As of June 30, 2003, the City maintains 231.85 miles of sidewalks adjoining 162.92 miles of public streets, including State highways.

The City's Subdivision Regulations (Chapter 25, Rockville City Code) and Street Construction Standards (Chapter 21, Rockville City Code) provide the legal basis for Rockville's sidewalk system. These laws require that sidewalks be constructed on both sides of the street in most new subdivisions; in Planned Residential Unit (PRU) developments, specific requirements for sidewalks are prescribed by the Mayor and Council. The City also installs sidewalks on its own roadway projects. On arterial streets like Wootton Parkway, practice has been to provide an extra-wide sidewalk/bike path combination on at least one side of the street.

In general, the State Highway Administration (SHA) does not provide for sidewalks, so installation adjacent to State highways in Rockville is almost always the responsibility of the City. Since the mid-1980's, the SHA has been installing some sidewalks in conjunction with new roadway construction, but, similar to other sidewalks along State highways, maintenance remains a City responsibility.

Some streets in Rockville remain without sidewalks, particularly in older neighborhoods. Construction in these areas is made more difficult by such factors as insufficient right-of-way, poorly defined road edge, adverse grading, or private landscaping within the right-of-way. Projects can also be hampered by a lack of support from owners of properties directly adjacent to the proposed sidewalk. Without even considering funding, the goal of "a sidewalk on every street" (see Appendix 1) is expected to be elusive.

As important as the expansion of the sidewalk system is the quality of maintenance for existing sidewalks. Repair or replacement of sidewalks is accomplished both by City forces and by private enterprise under annual City contract. Over the last several years, the City has committed approximately $400,000 annually to sidewalk repair.

A. Sidewalk Construction – General

- Along major and arterial streets, sidewalks should be provided on both sides of the street within residential and business areas, and on one side of the street in all other areas.

- Sidewalks should be provided on both sides of business streets, and on at least one side of industrial streets.

- In residential areas, sidewalks should be provided on both sides of primary streets, and on at least one side of secondary streets. Around schools, secondary streets should be provided with sidewalks on both sides.

- For all street classifications, sidewalks should be placed on both sides of the street on routes served by local mass transit.

- All sidewalks shall be at least 4 feet in width, and constructed from hard-surface materials such as concrete, asphalt, or brick. *An eight (8) foot width is preferred wherever feasible.* Concrete is to be preferred in residential and business areas generally, with brick being reserved for use in areas of institutional or historical significance. Asphalt should be limited to use in combined pedestrian/bicycle facilities and for sidewalks of a temporary nature. Asphalt may also be used in place of concrete for pedestrian pathways not adjacent to public streets (see Section 2, Exclusive Pedestrian Facilities).

- Sidewalks should be separated from the adjacent roadway by a buffer strip at least three (3) feet wide. This is especially important along high-speed, high-volume streets on which vehicle travel occurs adjacent to the curb. Separation can take the

form of a grass strip, a protective berm, or a wider sidewalk section that effectively provides a buffer while also supporting traffic control devices, street lighting, and landscaping. *Every feasible effort shall be made to ensure that the buffer strip design is sufficient to prevent snow plowed from the street from being placed on the sidewalk.*

- In both new and existing developments, raised pedestrian refuge areas may be provided at intersections and other street crossing points. These refuges can take the form of islands or peninsular curb extensions ("chokers"). In coordination with sidewalks, chokers are to be particularly encouraged at intersections where both vehicle and pedestrian movements are heavy and where on-street parking may be desirable. *Such refuges shall be considered in accordance with supplemental warrants to be adopted by the City. Island refuges are especially encouraged in the vicinity of bus stops.*

B. New Development and Road Construction

- In new subdivisions, sidewalks shall be constructed on both sides of each street.
- In PRU developments, sidewalks should be constructed on both sides of each street, with specific requirements for sidewalks and other walkways to be determined by the Mayor and Council.
- In the Town Center, sidewalks shall be provided on both sides of each street, and shall be constructed in compliance with the design criteria contained in the Town Center Urban Design Plan.
- In conjunction with new roadway construction or major reconstruction, the City should construct sidewalks on both sides of the street within residential areas, business areas, and along routes served by local mass transit. In all other areas, sidewalks should be constructed on at least one side of the street.
- Parallel to arterial streets, the City may provide a wider hard-surface pathway to accommodate bicycles as well as pedestrians. The width of such facilities shall be at least eight (8) feet, and preferably ten (10) feet.
- In reviewing plans for construction or reconstruction of State highways, the City should encourage the construction and/or improvement of sidewalks and other pedestrian amenities by the State, consistent with these policies.
- The appropriate standards of the Rockville Pike Plan and the Town Center Urban Design Plan shall be followed in the sizing and buffering of sidewalks. Protective berms are to be especially encouraged as sidewalk buffers along Rockville Pike and Hungerford Drive, Rockville's busiest and most hazardous streets.

C. Existing Streets and Establishing Connectivity between Separated Neighborhoods

- The City shall actively pursue the installation of sidewalks along existing streets without sidewalks. Highest priority for construction of new sidewalks along existing streets should be given to closing gaps in otherwise continuous sidewalks and to providing access to schools and other public facilities.

- Secondary priority should be assigned to requests for block-length sections of residential sidewalks that may be requested by petition of abutting property owners.

- The SHA should be encouraged to increase its participation in the funding and construction of sidewalks within the City. In the absence of State participation, the City shall construct (or have developers construct) and maintain sidewalks along State highways.

- New sidewalks on existing streets may be constructed at public expense on the basis of established priorities and available funding. Private funding opportunities should also be sought, especially for locations adjacent to undeveloped properties, for special-purpose projects, and to accelerate projects with low public priority. Adjacent property owners should be assessed for their specific design requests that exceed normal sidewalk standards.

- The City shall identify impediments, obstacles, and unsafe conditions that impede connectivity between neighborhoods, activity centers, and transportation facilities and shall consider appropriate improvements to sidewalks, lighting, signage, crosswalks, and other systems that enhance pedestrian mobility and safety. The City shall work with other governments and jurisdictions to improve pedestrian connectivity from Rockville to adjacent areas, especially as a part of overall traffic mitigation efforts and in conjunction with developments in Transit-Oriented Areas (TOAs). TOAs are areas where viable non-auto options exist and include areas within 7/10^{ths} of a mile accessible walking distance from existing and programmed Metro stations and fixed-guideway transit stations on dedicated transit rights-of-way; may also include major access routes to these areas

D. Reconstruction, Repair, and Maintenance

- Reconstruction and repair of all public sidewalks shall be accomplished at the City's expense, with the exception of the few segments of sidewalk owned and maintained by the SHA. The cycle of reconstruction and the need for repairs shall be determined by the Department of Public Works.

- The City shall identify and take action to relocate or remove obstructions to sidewalk accessibility, including but not limited to utility poles, fire hydrants, newspaper vending machines, mailboxes, and overhanging tree branches. Standards for accessibility shall be in accordance with the Americans with Disabilities Act (ADA).

- Owners of abutting properties shall be responsible for snow removal, grass strip cutting, weed control and other sidewalk maintenance of a less capital-intensive

nature. For "reverse frontage" situations, where the sidewalk is generally inaccessible from the adjacent property, the City may provide maintenance when and where resources permit. All sidewalks fronting City owned properties shall be maintained by the City.

2. EXCLUSIVE PEDESTRIAN FACILITIES

"Exclusive pedestrian facilities" refer to all public pedestrian pathways other than sidewalks. Examples include public pathways within exclusive rights-of-way or easements, vehicle-free pedestrian zones, and pedestrian grade separations. The category could also be extended to include pathways through parks or other public properties that serve as through pedestrian routes, as well as pathways through common property of PRU's that effectively serve non-resident pedestrians. All of these are part of the non-recreational network of routes available to the walking public.

- In the design of subdivisions, PRU developments, and major commercial developments, public easements and pathways should be encouraged through and between properties to shorten walking paths for pedestrians generated within the site, as well as for those desiring to pass through the site. The need to provide more convenient pedestrian access should be balanced against the occasional "nuisance value" of these pathways to the particular site.

- Pathways through exclusive easements and rights-of-way shall be hard-surfaced, paved in either concrete or asphalt. The latter material is preferred if joint use with bicycle traffic is intended. Brick or other hard-surface treatment may be used to maintain aesthetic compatibility with the developed site.

- Where exclusive pedestrian facilities traverse private property, the owners should be encouraged to provide amenities such as lighting and landscaping that enhance the safety, utility, and attractiveness of these walkways.

- Further opportunities to provide vehicle-free zones should be explored, particularly within the Town Center.

- Further opportunities to provide bridges and underpasses for pedestrians should be explored and should be identified both in the Master Plan and in major development proposals.

- Within the Town Center, design and operational features favoring safe and convenient pedestrian travel at street level shall be encouraged. Complementary grade-separated facilities, however, should be considered to eliminate conflicts for pedestrians crossing major roadways such as Hungerford Drive (MD Route 355) and Middle Lane.

- Walking surfaces of pedestrian grade separations should be slip-resistant, and should continue to exhibit adequate friction characteristics when wet.

3. ACCESSIBILITY

A long-standing City objective has been to make all street crossings accessible to those with disabilities. This is accomplished by providing curb ramps at street corners and other designated crossing points. A secondary rationale for providing curb ramps is improving accessibility and safety for those walking with carts, baby strollers and the like.

The Americans with Disabilities Act (ADA) has provided an additional impetus for improving accessibility. Not only does the ADA give deadlines for the completion of the City's curb ramp program requirements but also suggests new areas of improved disabled accessibility, such as at bus stops and provision for barrier-free driveway apron designs.

- Curb ramps meeting ADA requirements (specifically, the Uniform Federal Accessibility Standards (UFAS)) shall be constructed to provide access to every legally defined crosswalk, both marked and unmarked.

- Curb ramps shall be installed in conjunction with sidewalk construction in all new land developments and public roadway projects.

- City standards for bus stop pads and barrier-free driveway aprons shall be developed, employed, and updated periodically to meet the most recent ADA requirements.

- The City should construct wheelchair-accessible pads at bus stops, eliminate barriers at driveways, and replace older curb ramps not meeting UFAS standards. Where justified and feasible, curb ramps of an enhanced design conforming to the Americans with Disabilities Act Accessibility Guidelines (ADAAG) should be installed.

- Highest priority in City programs for curb ramps (both standard and enhanced), bus stop pads, and level driveway aprons should be given to specific requests from the disabled community.

- Traffic signal pushbuttons and pedestrian informational signs shall be placed to be readily accessible to the disabled. *Where appropriate, audible pedestrian signals are encouraged.*

4. DEVELOPMENT DESIGN

While pedestrian circulation has usually been considered in the internal planning of residential neighborhoods and business areas like the Town Center, there has been a tendency to view the pedestrian aspects of new developments in isolation. In automobile-oriented commercial areas like research parks, pedestrian considerations have been neglected more often than not. As a result, a large number of discontinuities have developed in the City's pedestrian network. New development of all kinds should be viewed as an opportunity to enhance the extent and continuity of the City's pedestrian facilities. *New buildings and redevelopment should be pedestrian*

oriented.

- In considering new commercial development or redevelopment, the City shall require that sidewalks be constructed parallel to all streets in accordance with (as applicable) the Rockville City Code, the Town Center Urban Design Plan, the Rockville Pike Plan, and these pedestrian policies.

- Proprietors should be encouraged to provide facilities that enhance pedestrian circulation and accessibility on previously developed sites. In reviewing on-site projects intended exclusively to fulfill these objectives, the City should not attempt to impose unrelated development requirements. The City's encouragement of such on-site improvements should be well publicized in the business community.

- All commercial buildings, as well as public facilities not located directly on streets, shall be linked to the public sidewalk network with conveniently placed and reasonably direct exclusive walkway facilities. Pedestrians shall not be required to walk within driveways or parking aisles to reach external streets and sidewalks.

- Connecting walkways and easements between adjacent commercial properties are encouraged and should be provided.

- For large office and retail developments located adjacent to major streets (or other potential impediments to pedestrian movement), opportunities to provide grade-separated pedestrian facilities should be explored and, if possible, implemented. Such opportunities need not be specifically identified in the Master Plan.

- Pedestrian access within all development sites and to all buildings shall comply with ADA requirements.

- The need to assure acceptable pedestrian crossing times at key intersections shall be considered in traffic impact studies for new developments.

- For major developments, pedestrian demands may be quantitatively modeled to help determine the optimal location and size of pedestrian facilities. Such analyses would examine the mutual impact between pedestrian and vehicular flows.

5. CROSSWALKS

Maryland Law defines a crosswalk as any marked crossing or that part of a roadway intersection that is the prolongation or connection of sidewalks, whether marked or unmarked. Under this definition, a great majority of the City's crosswalks are unmarked. While marking all crosswalks is both unnecessary and cost-prohibitive, there should be a consistent method of determining crosswalks to be marked and available resources to install and maintain them.

- Crosswalks shall be marked within school zones, at all signalized intersections, *adjacent to Metro stations,* and at all locations with at least a moderate concentration

of pedestrian activity, especially in commercial areas.

- A marked crosswalk shall be designated by the presence of two parallel white lines at least 6" wide, spaced at least 6' apart.

- The standard width of marked crosswalks shall be 8' in residential areas and 10' in business areas. Crosswalks of 6' width should only be used where restrained by geometrics. Crosswalks greater than 10' wide can and should be used at locations where pedestrian demand is heavy.

- Away from intersections, "mid-block" crosswalks should only be designated at locations where justified by pedestrian demand and where the safety of the crosswalk location can be reasonably verified by the City.

- Mid-block crosswalks or those at unexpected locations should be illuminated to a level exceeding City standards for the appropriate street class.

- All crosswalks, especially those unprotected by signal or STOP sign control, should be monitored for sight distance obstructions. If identified, such obstructions should be removed.

- In accordance with Maryland Law, marked crosswalks shall also be hatched with diagonal or longitudinal (to the street) stripes at the following locations:

  - Streets where the speed limit is greater than 35 mph.
  - Within school zones.
  - Mid-block locations.
  - Where the presence of a crosswalk may be otherwise unexpected.

- Hatching can and should be used at any other location where special emphasis on the location of the crosswalk is needed.

- For higher classifications of streets with heavier traffic, highly durable cold plastic or thermoplastic materials should be used to insure the sustained visibility and long service life of crosswalk markings.

- In the acquisition of durable crosswalk materials, the City should seek out and specify materials that minimize polishing and the slippery surface that can result. This consideration is especially important for hatched crosswalks.

- *Crosswalks shall be marked with paddle signs in accordance with supplemental warrants to be adopted by the City.*

6. TRAFFIC SIGNALS AND SIGNS

City owned-traffic signals will have been equipped with an appropriate complement of

pedestrian signals, completing an effort that began in 1980.

While the City has consistently followed the policies stated below, DOT observes some different policies regarding the timing of traffic signals. These differences reflect the independent philosophies of the City and DOT in traffic signal operations.

- Pedestrian signals shall be installed and maintained at all signalized crosswalks a.) that cross the "main street" signal movement, and b.) where pedestrian movements potentially conflict with an exclusive (green arrow) turning movement.

- At individual locations, pedestrian signals may also be desirable for crossing "side" streets, where there is no conflict with exclusive turn movements.

- All pedestrian signals shall be of an oversized (15") single-section design. Existing signals of twelve (12") two-section design may continue in use until the end of their useful service lives.

- Pedestrian signals shall be designed and maintained to be free from obstructions.

- The City should adopt and employ special warrants, supplementary to the Manual on Uniform Traffic Control Devices (MUTCD), for traffic signal justification based on pedestrian usage. Special weighting should be assigned to the elderly, the disabled, and schoolchildren.

- At signalized intersections, the City should seek opportunities to employ exclusive pedestrian intervals during which conflicting movements are stopped, consistent with sound congestion management practice, signal coordination requirements, and intersection capacity restraints. Exclusive pedestrian intervals may be applied to single crosswalk movements only, or, to the entire intersection (the so-called "Barnes Dance").

- The standard walking speed used to determine the flashing DON'T WALK interval for pedestrian signals shall be 3.5 feet per second. *Speeds as low as 2.5 feet per second should be employed at signals where a large number of elderly and/or disabled concentrate or where otherwise identified in supplemental warrants.*

- For pedestrian convenience and safety, signal cycle lengths should be kept as short as practicable. In no case should cycle lengths of greater than 120 seconds be employed.

- Pedestrian timing at intersections shall be considered in the computation of volume/capacity ratios used in developmental traffic impact studies.

- At locations where conflicts between pedestrians and turning traffic on a shared green signal are common, a sign directing motorists to "YIELD TO PEDESTRIANS WHEN TURNING" may be employed. For left turn control, this sign would replace

the overhead "LEFT TURN YIELD ON GREEN (BALL)" sign customarily used at many intersections. Choice of sign should be based on the apparent greater conflict: turning vehicles versus pedestrians, or, turning vehicles versus opposing traffic.

- At locations where conflicts between pedestrians and right turns on red signal are common, right turns on red should be prohibited using the MUTCD standard NO TURN ON RED sign. For ease of comprehension, time-of-day NO TURN ON RED restrictions are generally discouraged, but can be used with productive effect at locations where pedestrian demand is intermittent.

- Where employed, traffic signal pushbuttons shall be conspicuously located and readily accessible to all pedestrians, including the disabled. Pushbuttons should be designed with minimum resistance to activation, and a detent to provide the positive "feel" that the signal has been called.

- At locations with consistently heavy pedestrian demand, automatic activation ("recall") of pedestrian signals should be employed, thereby eliminating the need for pushbuttons.

- At every traffic signal, with or without pushbuttons, educational signs demonstrating the proper use of pedestrian signals shall be installed and maintained.

- School crossing signs complying with the MUTCD shall be posted at every marked crosswalk in a school zone not otherwise controlled by a traffic signal or STOP sign.

- Pedestrian Crossing signs complying with the MUTCD shall be posted at all-mid-block and otherwise unexpected crosswalk locations not within school zones and not otherwise controlled by a traffic signal or a STOP sign.

- At locations where safety experience or field observation indicate, School Crossing and Pedestrian Crossing signs may be accompanied by a special YIELD TO PEDESTRIANS IN CROSSWALK sign.

- On streets where pedestrian demand is high but crossing activity is not or cannot be concentrated (apartment complexes, office parks), a special Pedestrian Area warning sign similar to the standard MUTCD Pedestrian Crossing sign may be employed.

- *The City shall maintain a list of innovative pedestrian safety traffic signals and signs and shall consider implementing them where appropriate.*

7. ENFORCEMENT AND SECURITY

Enforcement of laws, for both traffic control and public security, are an important component in sustaining safe and efficient pedestrian activity. The law also provides the means to insure that property owners keep sidewalks free from hazard and obstruction.

As needed, new legislation can and should be considered to further protect pedestrian interests and to remedy problems that might be identified.

- Police agencies shall actively enforce laws that encourage the safety of pedestrians. Conflicts instigated by motorists should be vigorously addressed in accordance with Maryland and City laws. Among the most common of these conflicts are:
    - Violation of the pedestrian's right-of-way on the "common green" at traffic signals by motorists turning left or right.
    - Failure to yield to the pedestrian's generally absolute right-of-way at unsignalized crosswalks.
    - Failure of motorists to stop before turning right on red, and failure to detect conflicting pedestrians, especially those approaching from the motorist's right.
    - Violation of red signals.
    - Blockage of sidewalks by parked vehicles.
- The Police shall also focus efforts on safety violations by pedestrians, such as proceeding against DON'T WALK signals, and discourage practices such as walking/running in the street where an adjacent sidewalk is readily available.
- Unsafe pedestrian-based advertising and soliciting on public streets and sidewalks shall be discouraged.
- Bicycle and scooter patrols should be applied to the enforcement of traffic laws affecting pedestrians.
- Uniformed crossing guards should continue to provide directed traffic movement around schools during key hours.
- Police traffic control of intersections may be exercised during periods of high pedestrian movement in business areas, during special events, and in the event of the planned or unplanned shutdown of traffic signals. As an option, traffic may be directed by trained and uniformed (or similarly designated) civilians, under Police supervision. For planned non-public events, the City shall establish and charge a fee to provide traffic control either by sworn officers or designated civilians.
- The personal security of pedestrians, both day and night, should be a high Police priority. Stress should be placed on enclosed facilities and on sidewalks where street furniture or adjacent buildings may provide easy concealment. To further enhance pedestrian security, Neighborhood Watch and Business Watch programs should be

publicized and encouraged.

- City Police shall review all development and major construction plans to help assure that pedestrian security is maximized.

- In the interest of providing a safe walking environment at night, lighting shall be provided on all sidewalks consistent with respective City standards for each classification of street. Non-sidewalk pedestrian facilities such as grade separations and subdivision pathways should also be illuminated to a reasonable standard where there is a particular public safety concern. In areas where there has been a pattern of endangerment to pedestrians, or where the Police believe such a potential exists, illumination greater than that suggested by the normal street lighting standards should be provided.

- The City's Division of Inspection Services shall take an active role in insuring that snow and ice are expeditiously removed from sidewalks, and that sidewalks are kept clear of overhanging branches and other overgrowth.

8. EDUCATION

In any aspect of traffic movement and control, programs of engineering and enforcement are ineffective without the third "E" -- education. This is especially the case where pedestrians are concerned. Driver education tends not to stress pedestrian prerogatives, and there has been little or no effort to provide "pedestrian education" to either drivers or non-drivers. Conveying the message to non-English speakers is also a growing challenge. Improvement is needed in this area, but resources to date have not been up to the task.

- Both in the process of and in addition to normal enforcement activities, the Police should educate motorists and pedestrians in the meaning of traffic laws and in the respective courtesy that motorists and pedestrians owe each other.

- The City should encourage new initiatives in educational traffic signs consistent with the need to minimize sign clutter. City programs to install and maintain special educational pushbutton signs, YIELD TO PEDESTRIANS WHEN TURNING signs, and YIELD TO PEDESTRIANS IN CROSSWALK signs should continue. SHA's sign program to reaffirm the pedestrian right-of-way in crosswalks should also be continued. *Where appropriate the City should consider use of signage to educate pedestrians on the existence of pedestrian facilities and intended routes. Non-English language newspapers and radio programs should be included to reach the broadest spectrum of Rockville resident's possible.*

- The City should solicit public input on pedestrian problems and needs at least twice a year through "Rockville Reports" and take initiatives to publicize pedestrian programs through *Cable TV, the City web site and the commercial media.*

- The City should regularly publicize the names of officials who can address

maintenance problems, inquiries about new or existing traffic control, and matters of enforcement.

- City staff should initiate and participate in outreach programs to schools and civic/*community* groups. These programs should educate the public about pedestrian safety, inform the public about City programs, and seek input on pedestrian concerns.
- *The City should have a program to encourage walking.*
- Whenever possible, the Police should educate the walking public about appropriate measures for personal security.
- To help ensure that pedestrian needs are recognized in all City traffic planning and operational activities; tallies of pedestrian movement shall be included in all intersection counts made either by the City or by private consultants performing City-mandated traffic impact studies.

Appendix A: Summary of Pedestrian Related Goals

From the "Goals...Rockville" Report (9/25/89)

"The City should strive to promote an accessible vehicular, pedestrian, and mass transportation system that emphasizes movement of people and goods safely, conveniently, in a reasonable time frame, and with minimal community disruption."

"The City has a responsibility to see that improvements are made that will ensure safe and convenient pedestrian connections through provisions for traffic signals, sidewalks, overpasses, and other improvements in the pedestrian network."

"The City should publicize and enforce pedestrian rights within pedestrian crosswalks."

"The development approval process should mandate safe and convenient pedestrian facilities and connections in and between all new developments; in developed areas of the city, providing safety and access improvements for pedestrians and cyclists should be a priority."

From "Approved Master Plan" (7/93)

"Reduce traffic accidents through programs that create a transportation environment that is forgiving to motorists and pedestrians alike." (Ch. 4, Transportation)

"Adopt design standards that ensure that development is accessible to pedestrians and transit users". (Ch. 4, Transportation)

"Develop pedestrian policies and standards that promote the use of a coordinated walkway system, including grade separated facilities." (Ch. 4, Transportation)

"Complete a citywide system of pedestrian facilities, including hard-surfaced sidewalks along all streets, and provide convenient access to all public and major private facilities." (Ch. 4, Transportation)

"Provide barrier-free access on public and private walkways for all people." (Ch. 4, Transportation)

"Promote design standards for safe pedestrian and vehicular circulation and promote use of alternative transportation modes." (Ch. 6, Residential Neighborhood Areas)

"Community design controls should be used to improve the environment for pedestrians and create attractive, functional, and accessible activity centers." (Ch. 12, Community Appearance and Design).

Visual Benchmarks for Town Center Developments

Montgomery Avenue-Courthouse Square-Maryland Avenue corridor as a primary L-shaped spine of activity—the centerpiece of the Town Center. In addition, this corridor can serve as a division between the scale of development associated with intense traffic/transit corridors along MD 355 and the Metro tracks and a scale of development that is better suited adjacent to the residential neighborhoods to the west. A description of the zoning revisions that support such an approach were outlined above and include standards for building height; the Design Guidelines offer solutions for how those buildings are placed on a site and how the architecture is designed.

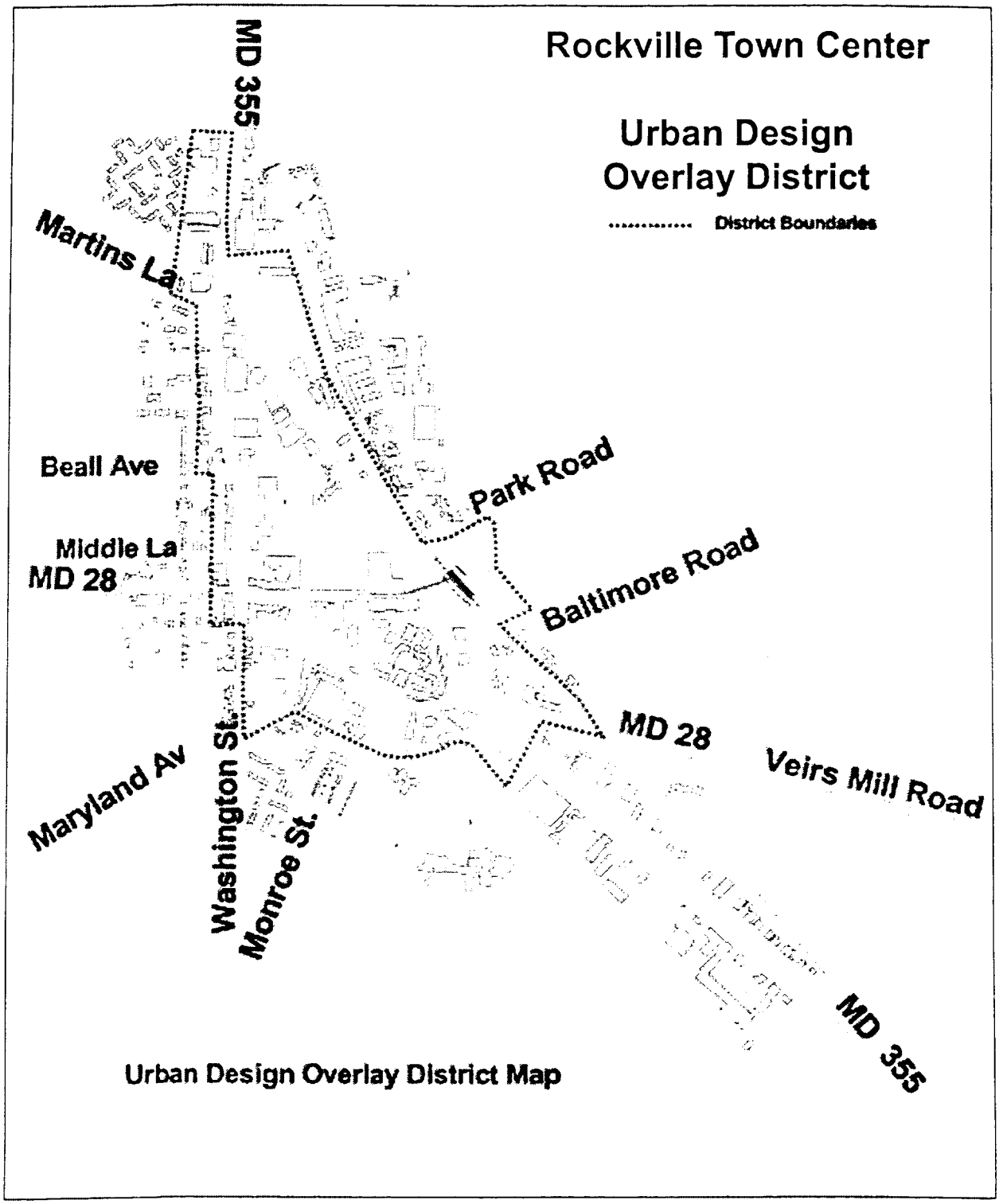
The Design Guidelines are intended to provide guidance for developers and designers as to how future construction in the Town Center should be designed. The Guidelines are not intended to be requirements but principles that should be followed. Exceptions to the Guidelines will be considered if the design as proposed meets the intent of the guidelines and the purpose of the Town Center Master Plan. The Guidelines shall apply to both public and private development within the Urban Design Overlay District.

The Design Guidelines are based, in part, on the image preference survey that was conducted at the public open house. The images above should serve as visual benchmarks that indicate how the Town Center should look.

Urban Design Overlay District Guidelines

The following guidelines are intended to achieve the following objectives:

- Celebrate Maryland Avenue as the Town Center centerpiece through the use of outstanding and creative design solutions.
- Celebrate Washington Street north of Jefferson Street as a high quality, mixed-use street that serves as an appropriate transition to the residential neighborhoods.
- Bring buildings up to the street edge and reinforce a sense of urban enclosure by placing parking behind buildings.
- Encourage high quality materials in all aspects of site and building development.
- Incorporate open space (landscaping and/or plazas) into private building plans
- Create streetscapes and public spaces that feel comfortable to pedestrians by encouraging inclusion of green space and/or green areas.
- Utilize traditional storefront design techniques wherever possible; maximize opportunities for street activity by incorporating open and inviting ground floors.



Urban Design Overlay District Map

Site Layout

SL-1: All site plan layouts shall give first consideration to pedestrians.

SL-2: All buildings must be built at the edge of public right-of-way except those that front onto MD 355 and South Washington Street south of Vinson Street. Building setbacks shall be sufficient to provide for pedestrian circulation and activity. Thus, additional dedication of public right-of-way may be required. All MD 355 frontage may be set back to incorporate green space that complements proposed open space on the east side of MD 355.

SL-3: No side or rear setbacks are required; minimum ten feet if provided.

SL-4: Parking must be located to the side or rear of the structure except as described below under Parking Design.

SL-5: Building facades on Maryland Avenue between Courthouse Square and Dawson Avenue and on North Washington Street between Montgomery Avenue and Beall Avenue must occupy 100% of the street frontage. This street frontage requirement may be reduced to 80% if the development creates plazas or courtyards, and allows for alley access to parking in the rear with pedestrian walkways.

SL-6: Recessed entrances shall be designed so that they do not exceed 50% of the width of the storefront, nor 10 feet in depth.

SL-7: New curb cuts shall be avoided or minimized on Maryland Avenue and Washington Street.

SL-8: Loading and service areas shall be located and designed to minimize their visibility from public rights-of-way and public spaces. The use of walls and landscaping to screen views of these areas is encouraged.

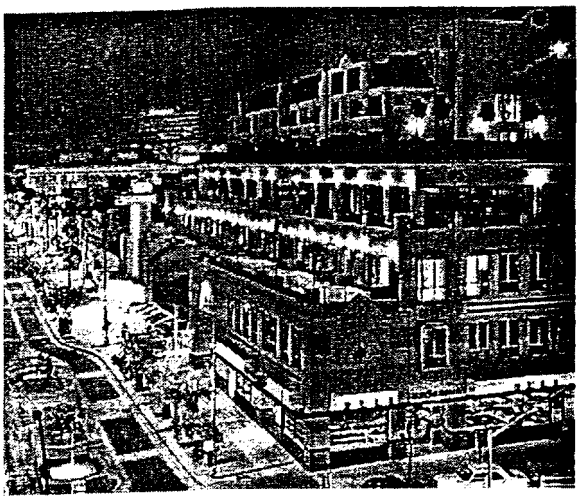
The size of recessed entries should be limited (SL-6) so that dark spaces are not created and activity is not pushed back away from the street.

Building Scale & Massing

BSM-1: Buildings throughout the overlay district should be at least 2 stories in height. Along Maryland Avenue north of East Jefferson Street, buildings should be at least 3 floors in height.

BSM-2: Building frontage widths or bays in all areas west of MD 355 should be scaled to the pedestrian with a rhythm of 15-30 feet spacing that creates facade interest.

BSM-3: An upper floor building setback shall be encouraged on Maryland Avenue and North Washington Street. Upper floors 45 feet above the street level of buildings that exceed 60 feet in height must be set back 15 feet from the lower facade on both streets. Building heights above the required setback are determined by zoning classifications. The goal of this guideline is to allow more sunlight to reach the street and, more importantly, to maintain a low- to medium-rise streetscape character that will be more comfortable to pedestrians. Building setbacks that result in the mass of tall buildings being recessed so that they appear to be out of view from pedestrians at street level can help to maintain an appropriate, pedestrian-friendly scale to both Maryland Avenue and North Washington Street. Building setbacks become more



Building setbacks (BSM-3) such as those seen on this building in Santa Monica, CA can be utilized to maintain a pedestrian scale to the street and to provide outdoor space to upper floor users.

critical the taller the building is. An appropriately designed 60 feet tall building may still feel comfortable to pedestrians, so some flexibility in regard to this guideline should be utilized.

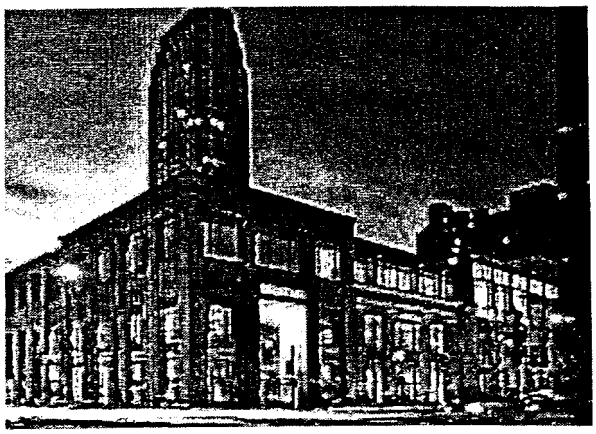
BSM-4: Buildings located at corners should serve as gateways distinguishable from the rest of the buildings. As such, building heights at corners shall be allowed greater flexibility than described in BSM-3 as long as design elements reinforce the corner location and are pedestrian friendly. At 40 feet from the corner, buildings shall be required to comply with upper level setbacks as described above.

Special design treatments at corner locations are encouraged (BSM-4).

BSM-5: Distinctive roof forms, profiles, and cornices shall be encouraged to provide a termination to the top of the building in such a manner as to complement and enhance the character of the Town Center. On sites at corners, the roof design should emphasize the corner.

Fenestration

F-1: Windows should comprise 25-50% of upper facades visible from public rights-of-way and should reflect a rhythm, scale, and proportion compatible with the overall building design.



Upper floor facades should consist of at least 25% window space (F-1) as shown on this building in Chicago, IL.

F-2: All buildings on Maryland Avenue shall incorporate a traditional storefront design with a large display windows of clear glass, bulkheads, recessed entries (where appropriate), transom windows, and suitable locations for signs at their ground levels. Modern and creative design solutions may be employed as long as the traditional storefront proportions are referenced. Multiple storefronts within the same building should be visually compatible in terms of scale, alignment, color, and materials. On Maryland

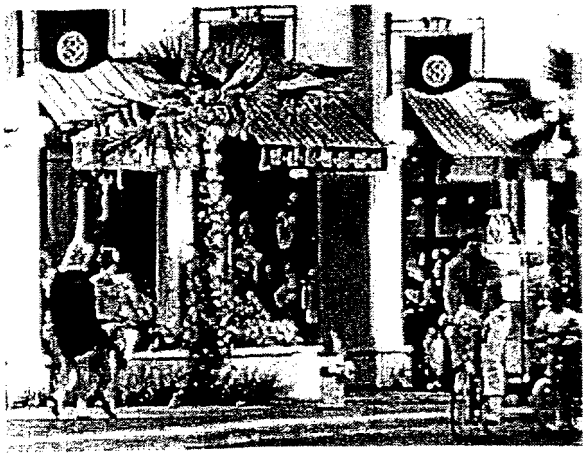
New construction on Maryland Avenue should reflect the proportions of traditional storefront design (F-2) as exhibited in this building in Charlotte, NC.

Avenue, at least 75% of the ground floor facade shall be glass.

F-3: Retail spaces on Maryland Avenue and North Washington Street shall be accessed directly from the sidewalk, rather than through lobbies or other internal spaces.

Architectural Detailing

AD-1: All buildings shall have their principal building pedestrian entrance on the facade.



Awnings and canopies should fit within defined architectural openings and respect the facade design. They should not interfere with other streetscape elements (AD-2 & 4).

AD-2: Above 7 feet, encroachments for projecting signs or awnings should be permitted into the right-of-way, providing encroachment does not interfere with trees, utilities, transit shelters, or other street furnishing.

AD-3: Awnings, canopies, and recessed entries should be designed as integral parts of the building.

AD-4: Awnings shall fit within framed openings and shall be a traditionally-designed sloped awning consistent with the architectural style and character of the building. Awnings shall be made of canvas fabrics, but not vinyl, fiberglass, or wood. Glass and metal awnings may be appropriate for some buildings but must be consistent with the architectural style of the building.

AD-5: All buildings shall incorporate elements which break up facade planes and create a visual play of light and shadow. Avoid long, uninterrupted horizontal elements.

AD-6: Vertical divisions of ground and upper floors should be consistent. Major horizontal elements of neighboring buildings and storefronts, such as awnings, sign bands, and cornices should align, if feasible.

AD-7: For all buildings above 2 stories, the ground floor shall be architecturally distinguished from the upper facade to form a visual base for the building, and create an intimate scale for the pedestrian.

AD-8: Sides and rears of buildings should be designed in a manner compatible with the design of the building front. No large blank wall surface will be allowed on facades that are visible from a public right-of-way.

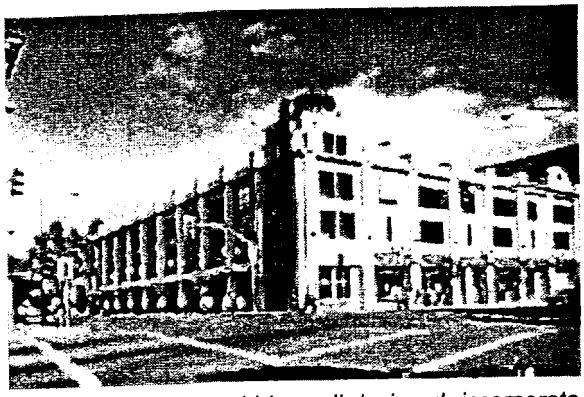
AD-9: The use of high quality, durable materials which enhance the building and convey a sense of permanence shall be required. Desir-

able facade materials for new or renovated facades include brick, concrete, stucco, marble, granite, tile, and terra cotta.

AD-10: Sloped roofs visible from public rights-of-way should be of slate, tile, standing-seam metal, or other high quality materials.

Parking Design

Parking garages in the Town Center shall be adequate, convenient, and attractively designed. The view of parking structures from streets in Town Center and adjacent residential neighborhoods should be minimized, with the preferred locations being behind residential units, offices and stores along the street frontage or underground. An effective signage and wayfinding program shall be instituted in Town Center to guide visitors to parking facilities and mass transit connections.



Parking garages should be well-designed, incorporate other uses along the ground floor whenever possible, and should exhibit architectural detailing (PD-1 & 2)

PD-1: No surface parking shall be allowed along Maryland Avenue except for on-street parallel parking; structured parking would be allowed but it must be faced with other uses on the first and second floors at a minimum.

PD-2: Structured parking is allowed but it must incorporate well-designed architectural elements on facades that face the street.

PD-3: Surface parking must be screened with landscape or hardscape materials. When utilized, surface parking lots must be located to the side or rear of buildings.

Generally, signs should not extend above the window sills of the second floor (S-2).

Signage

S-1: Signs shall be integrated into the building design, but not detract from the architectural quality of individual buildings. Signs should respect the building facade. Signs are most effective when the architecture and rhythm of the street are preserved or emphasized by the design of the signs. Signs should not obscure architectural details including any projection, relief, cornice, column, window or door opening or trim, or change of building material or pattern.

The City of Cleveland, through an ordinance passed in 1995, put a halt on the construction of surface parking lots within four downtown districts in order to 'preserve the urban architectural character of the most intensely development portions of downtown Clevelend.' (City of Cleveland, Ordinance #1876-94)

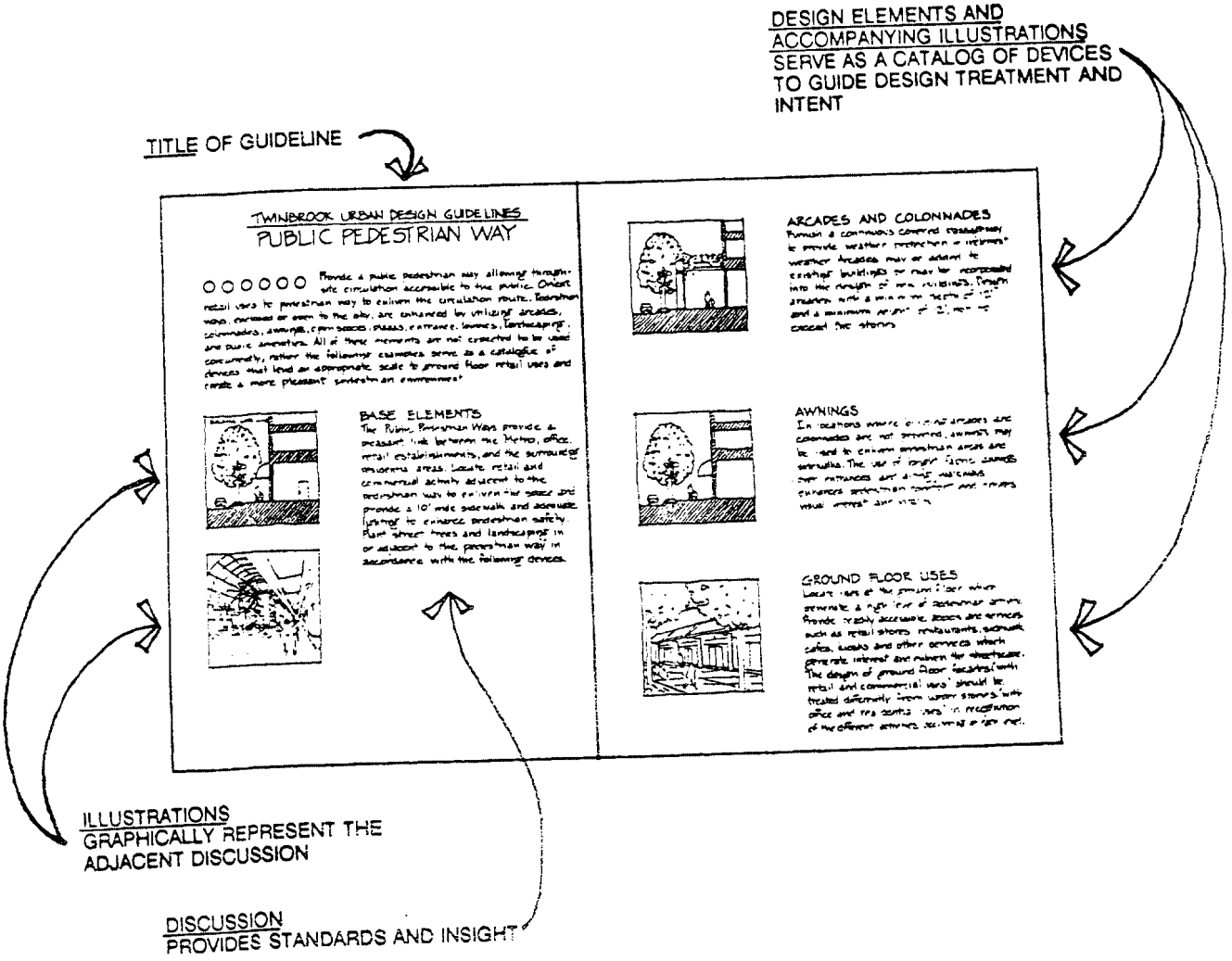
S-2: The proper sign location shall be the area of any building that is free of architectural detail and not higher than the lowest of the following: 25 feet above the adjacent sidewalk, the bottom of the window sills on the second story, or the highest part of the building under the roof.

S-3: Creativity in signage design is encouraged; non-descript box signs are discouraged.

S-4: No freestanding signs other than directional or street signs.

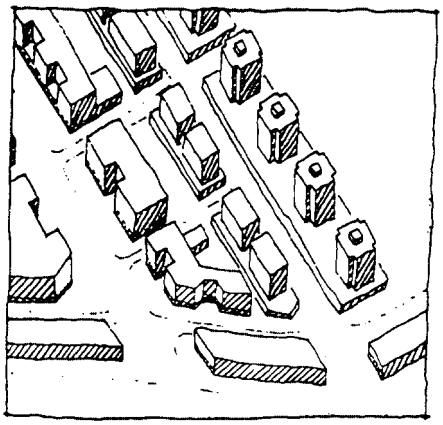
Urban Design Guidelines

The Urban Design Guidelines are intended to provide a framework which will ensure the quality of the built environment in the Rockville Pike Corridor. They serve as a general guide to developers and architects preparing for design review by illustrating the City's objectives. The guidelines highlight and supplement certain requirements set forth in the Zoning Ordinance in order to visually define the intent of the regulations and to give a number of suggestions for ways to achieve the desired outcome (see pages 63 to 80) Several ordering devices have been used to provide clarity and continuity:



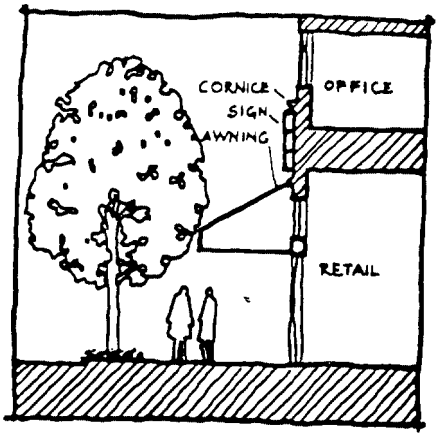
RPC URBAN DESIGN GUIDELINES
ROCKVILLE PIKE BUILD TO LINE

Place at least 50% of the Rockville Pike facade 135' from the center-line of Rockville Pike to provide a consistent visual image. Orient retail and services to the street and provide amenities that promote pedestrian activity.



BUILD TO LINE

A continuous building line creates a consistent street edge and provides a positive visual image to pedestrians and motorists. In order to achieve the desired sense of scale and space, it is most important to maintain this continuous edge at the lower floors of buildings where pedestrians and motorists are located. The shape of streets is improved and pedestrian comfort is enhanced by maintaining a uniform building line at the first two floors although well-defined open spaces may punctuate the facade to add interest and scale.



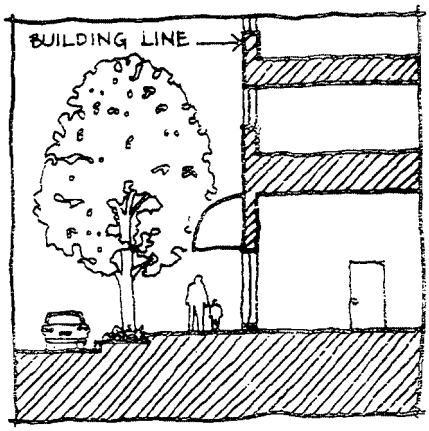
FACADE TREATMENT

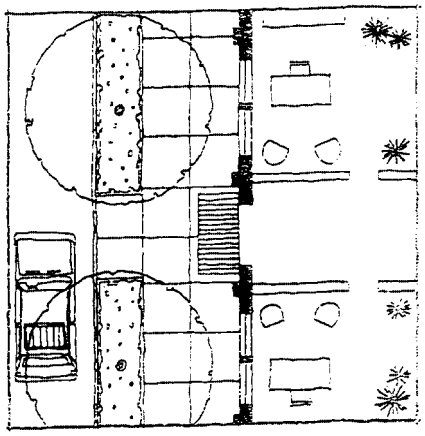
The design of ground floor facades should recognize the different activities occurring at each level. The upper level with office and residential uses should complement the pedestrian level with its retail and commercial uses. Signs, special features, entrances, and service and parking access can be more easily integrated with the facade when the pedestrian level treatment recognizes the functional differences of the upper levels. This recognition can be achieved with cornices, changes of materials and other devices that allow changes to occur at grade without affecting upper facades.

RPC URBAN DESIGN GUIDELINES

BUILDING LINE AT SECONDARY STREETS

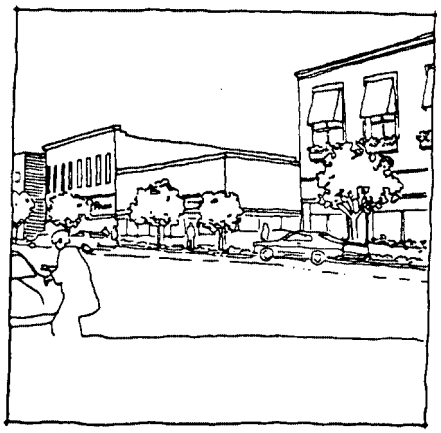
Place the lower floors of buildings at the building line or alternate building line and orient retail uses and services to the street. Create interest at the pedestrian level with landscaped setbacks, public amenities, awnings, plazas and other devices. Where the building line is not coincident with the Right-of-Way line the building line shall accomodate the streetscape standards.





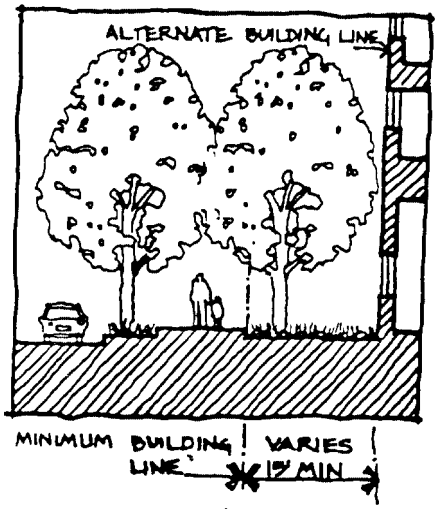
STREETSCAPE STANDARDS

The pedestrian environment should be made safe, convenient and attractive along secondary streets. To achieve this, the standard streetscape features a 5' wide tree planting strip along the roadway and a 10' wide sidewalk at the building edge. Street trees shall be planted approximately 30' o.c. and not more than 40' apart. Trees shall be selected from the list of "Acceptable Trees for Street Planting in the City of Rockville, MD" and at the time of planting shall be a minimum of 3.5" in caliper and 15' high.



MINIMUM BUILDING LINE

Maintain visual continuity of the streetscape by placing the building edge at an established building line. Secondary and minor streets may have significant pedestrian traffic even though there may be few shops or restaurants located along them. Pedestrian comfort should therefore remain as a prime design consideration.

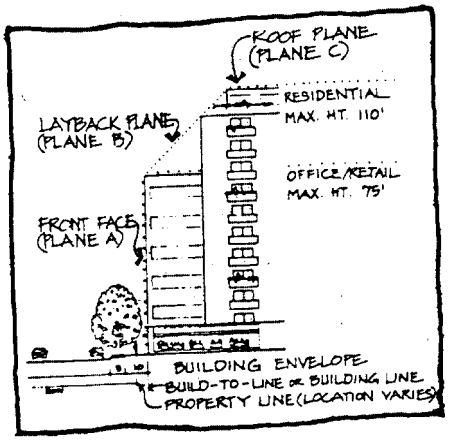


ALTERNATE BUILDING LINE

If greater setbacks from the standard streetscape is desired or proposed then it shall be a minimum of 15' and include an additional row of trees on the building side of the sidewalk. The alternate building line may be interrupted to create plazas, open spaces and courtyards. The pedestrian environment can be enhanced by locating parking behind the building and by providing safe and attractive through circulation for pedestrians.

RPC URBAN DESIGN GUIDELINES
BUILDING ENVELOPE

Building envelopes define the vertical and horizontal boundaries of buildable area on individual sites. Consistent relationships between the street and new buildings result from the application of the building envelopes. They ensure that new developments are compatible with surrounding neighborhoods by providing adequate light and air for nearby structures and adjacent streets. Parcel by parcel building envelopes are indicated in the Functional Plans and Sections. Characteristic elements are embodied in the accompanying illustrations and descriptions.

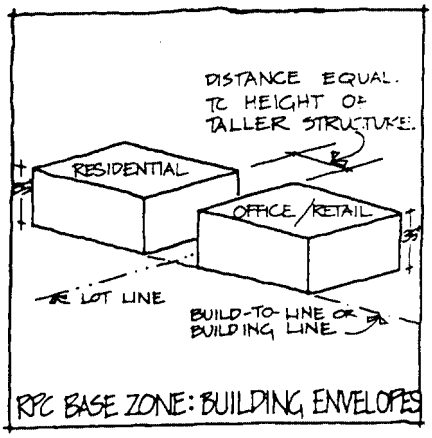


DESCRIPTION

Building Envelope is defined by a combination of the following restrictions:

- height of the building
- layback plane
- distance between building and lot lines (setbacks)
- distance between building and street (build to/ building line)
- distance between adjacent buildings
- solar access requirements
- maximum F.A.R.
- residential density
- permitted uses
- required open space on the lot

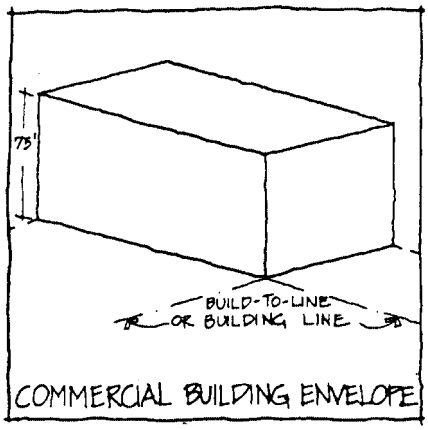
(124)



RPC BASE ZONE: BUILDING ENVELOPES

RPC BASE ZONE

Commercial and residential building envelopes are limited in height to 35'. No setbacks from the side or rear lot lines are required unless residential land abuts the adjacent lot. In that case, the setback must equal the building height of the taller structure.



COMMERCIAL BUILDING ENVELOPE

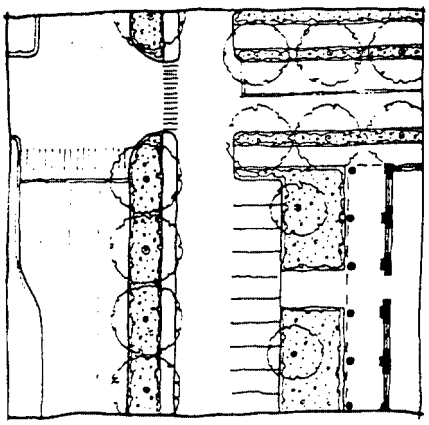
RPC OPTIONAL METHOD: TWINBROOK METRO AREA

Commercial and residential building envelopes shall be limited in height to 75'. No setbacks from the side or rear lot lines are required unless residential land abuts the adjacent lot. In that case, the setback must equal the building height of the taller structure.

RPC URBAN DESIGN GUIDELINES

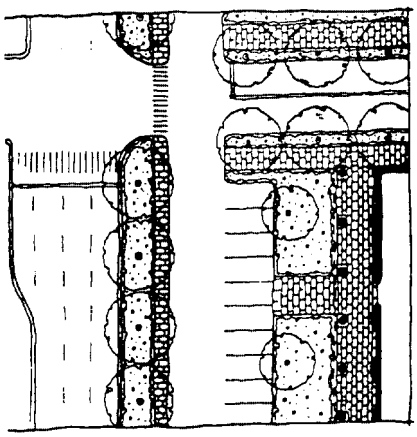
ROCKVILLE PIKE STREETSCAPE

Provide a consistent visual image along Rockville Pike. A pleasant pedestrian environment can be achieved by lining the street level with arcades and retail stores that adjoin the sidewalk and by following the Streetscape Requirements, City of Rockville Sign Ordinance, and Access Management Plan.



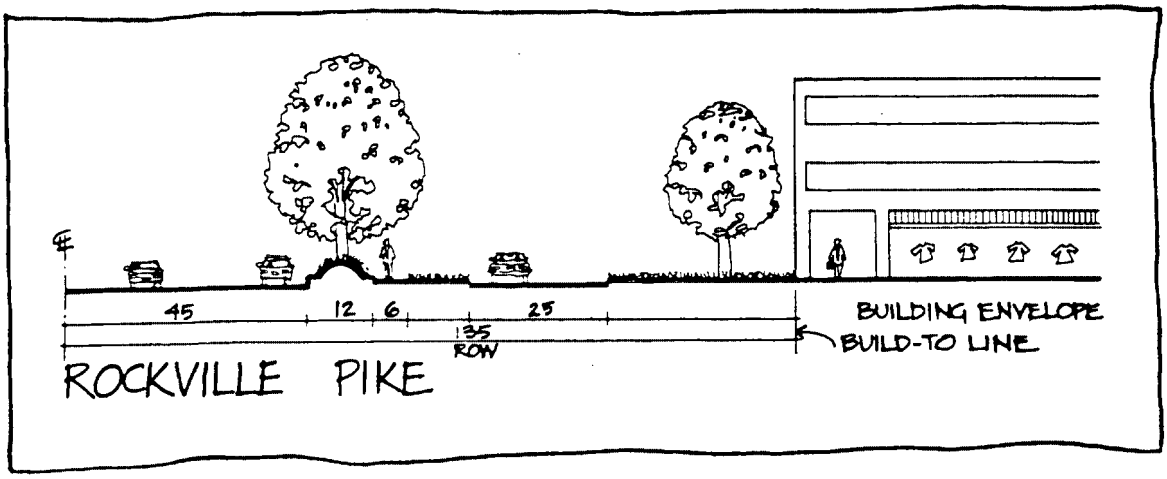
BASE LEVEL DEVELOPMENT

The required streetscape treatment includes a landscaped berm with trees at the road edge, a 6' wide concrete sidewalk and a service drive. Maintain the build-to line at a distance of 135' from the centerline of Rockville Pike to provide a consistent visual image. Street trees shall be a min 3.5 inches in caliper, 15' high and planted no more than 30' apart.

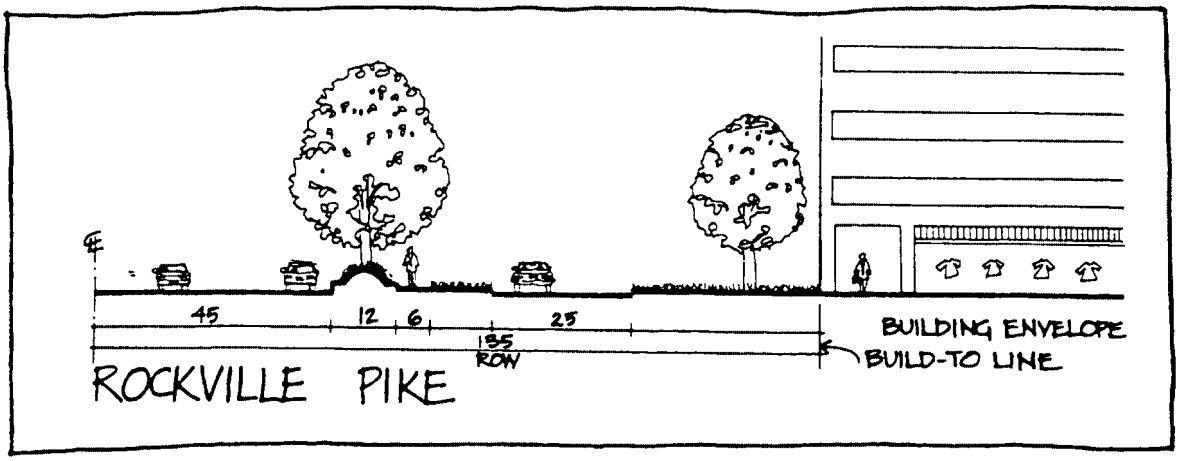


OPTIONAL METHOD DEVELOPMENT

In addition to the minimum requirements stated above, optional method developments shall include: a splash block at the Rockville Pike curb edge, London walk pavers, additional berm landscaping and a tree bed with landscaping at the building edge.



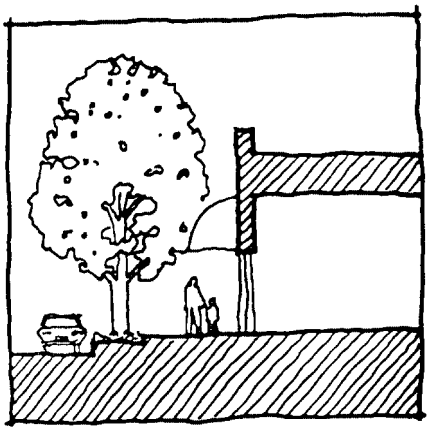
BASE LEVEL DEVELOPMENT



OPTIONAL METHOD DEVELOPMENT

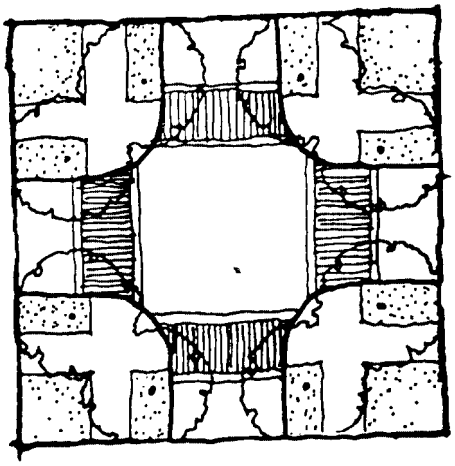
RPC URBAN DESIGN GUIDELINES
PEDESTRIAN AREAS

The following guidelines define and suggest pedestrian oriented spaces and linkages. Elements such as sidewalks, crosswalks, bus shelters and benches improve convenience and make the pedestrian feel safe and comfortable. Also signs and lighting contribute to a pedestrian's orientation and safety. Signs must conform to the City's Sign Ordinance and lighting design is reviewed in the Twinbrook Metro Area.



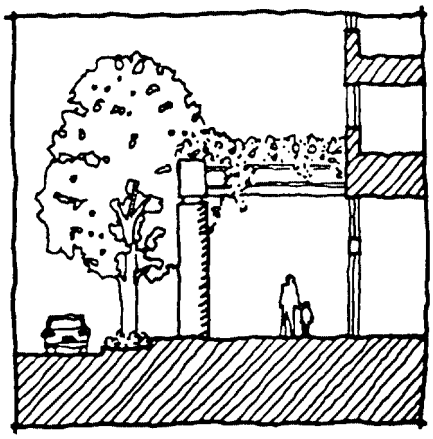
SIDEWALKS

A hierarchy of pedestrian pathways are designed to reflect pedestrian travel needs and aesthetic criteria relating to visual prominance. Sidewalks in commercial areas shall be a minimum of 6 feet in width. Residential area sidewalks shall be 5 feet wide when adjacent to the curb, or 4 feet wide when separated by a landscape strip.



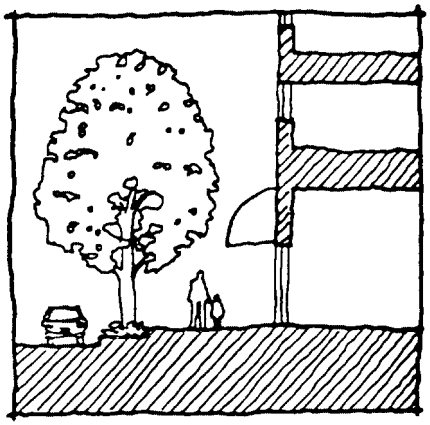
CROSSWALKS

Where public pedestrian ways cross private roads, crosswalks shall be installed subject to approval by the Department of Public Works.



ARCADES & COLONNADES

Furnish a continuous covered passageway to provide weather protection in inclement weather. Arcades may be added to existing buildings or may be incorporated into the design of new buildings. Design arcades with a minimum depth of 12' and a minimum height of 12', not to exceed two stories.

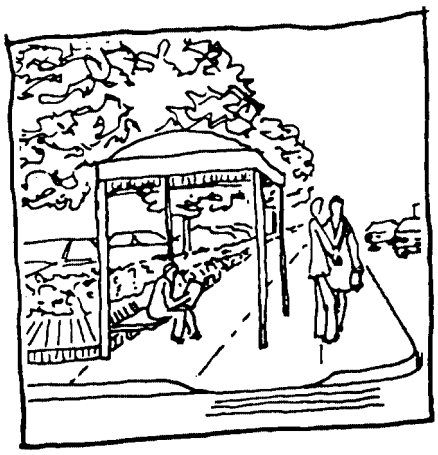


AWNINGS

In locations where building arcades and colonnades are not provided. Awnings may be used to enliven pedestrian areas and sidewalks. The use of bright fabric awnings over entrances and along walkways enhances pedestrian comfort and creates visual interest and vitality.

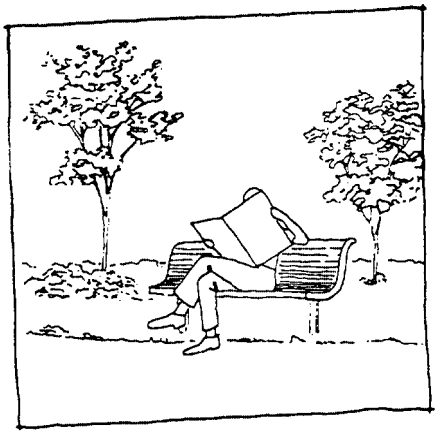
PLAZAS AND OPEN SPACES

Plazas and open spaces are defined on three sides by buildings, walls and landscaping. These elements greatly enrich the pedestrian environment by creating focal points. Features such as fountains, planters, cafes, special lighting and kiosks should be included to create a pleasant setting.



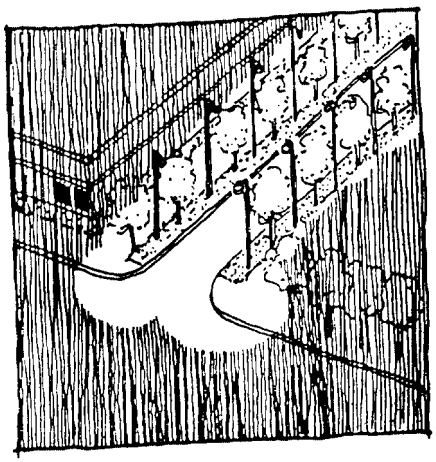
BUS SHELTER

The bus shelter to be used throughout the corridor is a protective feature with a long bench, tempered glass on three sides and posted bus schedules. The bus shelter shall be consistent with those being installed by WMATA.



BENCH

The standard bench to be used in or adjacent to the public rights of way throughout the corridor is the PADC (Pennsylvania Avenue Development Corporation) bench by Macatta. This bench is made of oak slats on a steel frame in "single" and in "back to back" versions.



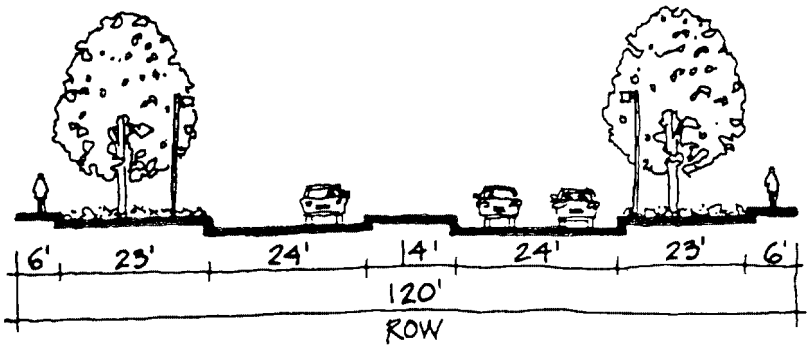
LIGHTING

Pedestrian areas should be adequately lit for pedestrian orientation to ensure greater safety, security and visibility. Coordinated fixtures contribute to the creation of a unified and pleasing appearance. Selected lighting fixtures should complement the building design and streetscape.

RPC URBAN DESIGN GUIDELINES

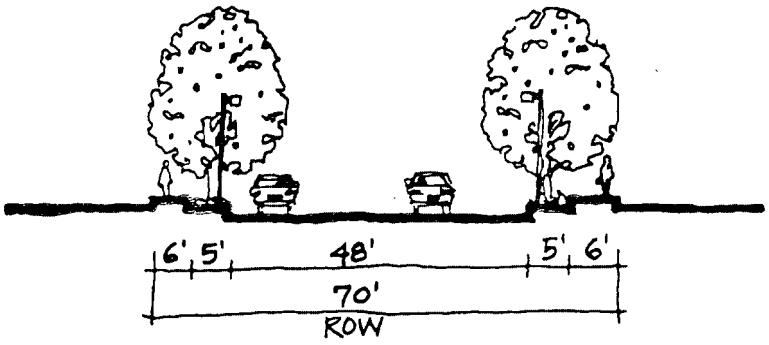
PUBLIC ROADWAYS

Vehicular movement is enhanced by improving the existing roadway network in the Rockville Pike Corridor. These improvements offer more options to motorists, increase the efficiency of local circulation, improve access to properties, and decrease intersection congestion. All developments within the Rockville Pike Corridor that dedicate a public right of way or easement for improvements shown in the Plan may include the dedicated area in the net lot area for the purpose of calculating F.A.R. The following roadway standards are required for dedication and construction of new roads in the City:



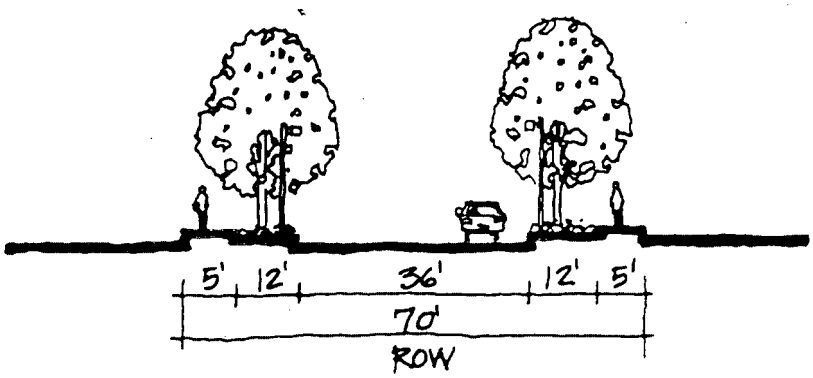
ARTERIAL

Arterial roads are built in a right-of-way at least 120' wide, containing two 24' paved sections separated by a 14' median strip. Curbs, gutters, sidewalks, lighting and landscaping also must be provided.



BUSINESS DISTRICT

Business district roads are built in a right-of-way at least 70' wide, containing a 48' pavement width. Curbs, gutters, sidewalks, lighting and landscaping also must be provided.



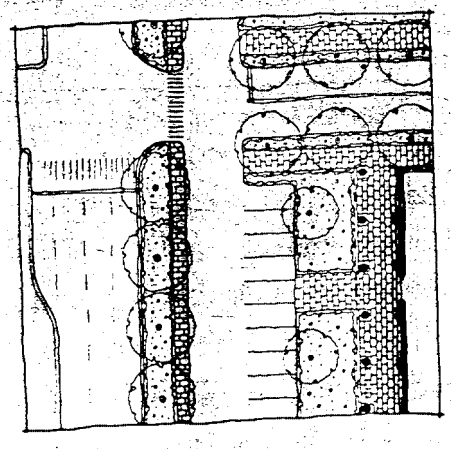
PRIMARY RESIDENTIAL

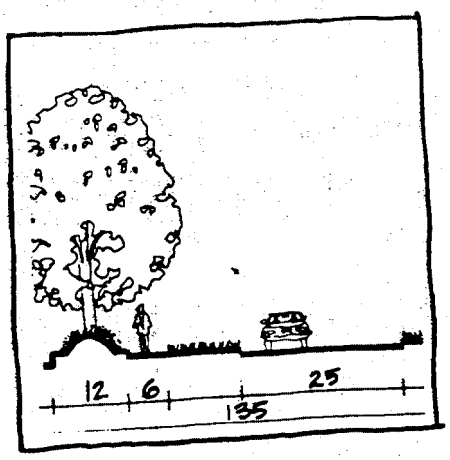
Primary residential roads are built in a right-of-way at least 70' wide containing a minimum pavement width of 36' for vehicular traffic. Curbs, gutters, sidewalks, lighting and landscaping also must be provided.

RPC URBAN DESIGN GUIDELINES

SERVICE DRIVE

Service drives are designed to separate local traffic from through traffic along Rockville Pike. The service drive enhances safety and accessibility by enabling motorists to travel between nearby businesses and to exit parking areas at planned intervals. All developments that dedicate an easement for the service drive may include the dedicated area in the net lot area for the purpose of calculating F.A.R.





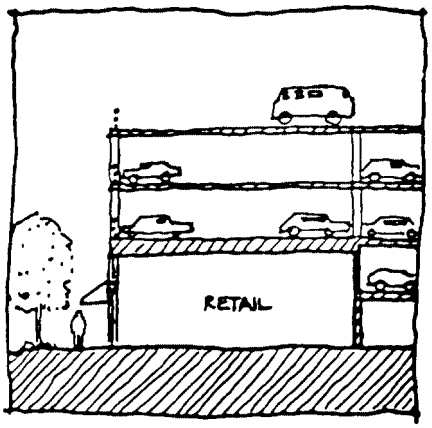
DESIGN STANDARDS

The service drive provide a convenient system to ensure free circulation of vehicular traffic and can function as a well-defined parking lot aisle with head-in parking permitted on both sides. The coordinated alignment between adjacent properties increases its functional efficiency and its value as an organizing visual element. The width of the service drive may not be less than 25'. The location of entrance and exit driveways shall be in substantial accordance with the Rockville Pike Access Management Plan.

RPC URBAN DESIGN GUIDELINES

PARKING STRUCTURE TREATMENT

Parking structures should be sensitively designed to assure the harmonious integration of each facility with the adjacent commercial and residential development, as well as with its natural environment. A sense of visual harmony can be achieved through the use of compatible materials, coordinated landscaping and screening, appropriate building color, sensitive lighting and signage, and the design of related amenities

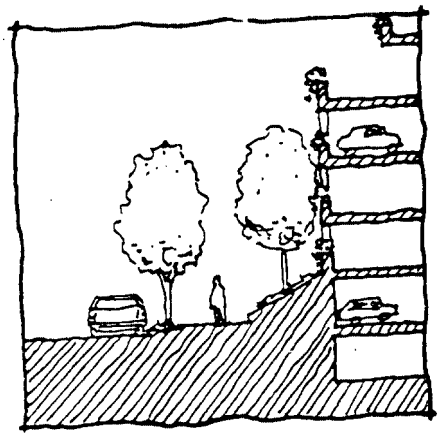


GROUND FLOOR USES

The effect of parking structures can be minimized by placing retail use along the street frontage. This creates interest and activity at the ground floor where pedestrians and motorists are located.

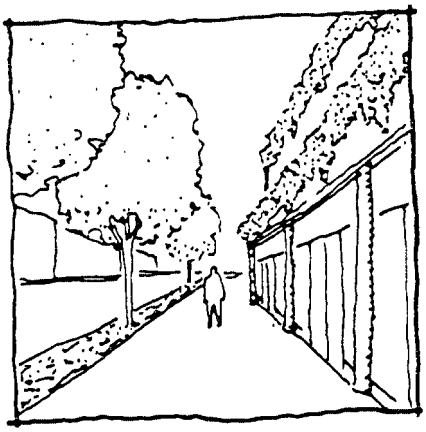
FACADE TREATMENT

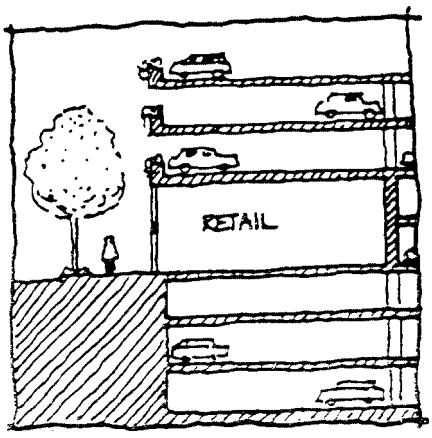
Parking structure facades should achieve the same high quality design and appearance as the buildings they serve. Minimize the parking structure's utilitarian appearance by utilizing effective design treatments such as colonnades, arcades, awnings, street furniture and other public amenities.



LANDSCAPING

Where ground floor retail is inappropriate, the use of landscaping is effective in softening hard edges and minimizing bulk. A structure may be set back from the building line to allow for an additional row of trees, berms and plantings. If constructed at the building line, the appearance may be improved with planters and stepped-back upper floors. Openings for vehicular access should avoid crossing major pedestrian paths and are subject to review by a Design Review Board, and must conform with the Rockville Pike Corridor Neighborhood Plan.





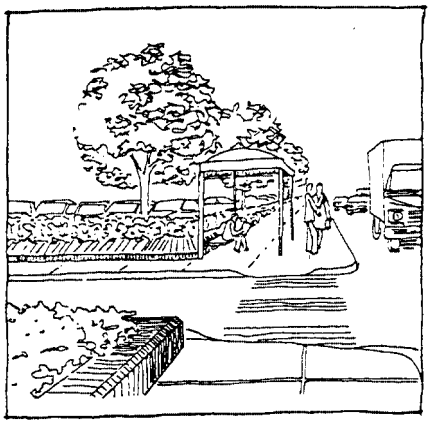
PARKING STRUCTURE HEIGHT

The height of parking structures should be minimized, especially at the street edge. The height of parking facilities that are placed at the street edge should not exceed 35' above grade, and not will not be eligible for the additional building height available in the optional method of development. If a structure is enclosed within a building complex and not visible from the street, the building height restriction is 75'. Underground levels are encouraged to increase parking capacity.

RPC URBAN DESIGN GUIDELINES

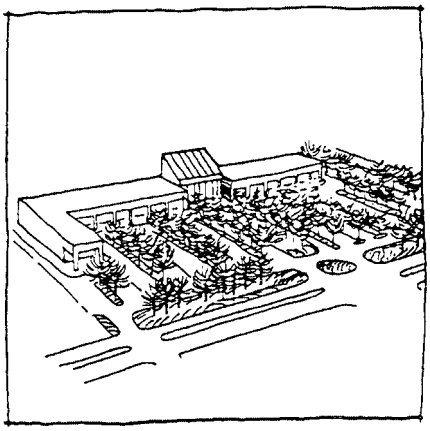
PARKING LOT TREATMENT

Parking lots should be screened from view from public roads and adjacent residential or developed areas. Buffering and screening shields unsightly areas and parked cars, defines special areas, creates attractive views, and provides a cohesive transition between non-similar uses.



PARKING LOT EDGES

Parking lots adjacent to public rights-of-way shall be screened with evergreen plantings, ground-covered berms or walls at least 2.5 feet high. Achieve at least 75% continuous opacity to soften the visual impact. Parking lots adjacent or opposite to residential zoned or developed land shall be screened to a height of 5' with evergreen plantings, walls or earth berms achieving 100% opacity.



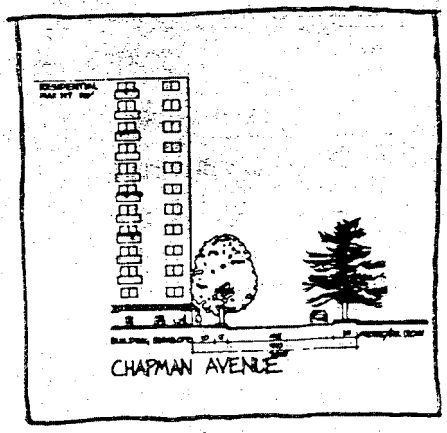
PARKING LOT INTERIORS

Deciduous trees should be used in parking lots to relieve the monotony of large paved masses. Trees planted approximately 30' apart in continuous beds of ground cover provide an overhead canopy and define the space by directing the line of pedestrian and vehicular movement. Walkways should be separated from vehicular traffic by elevation, landscaping or surface treatment such as brick pavers, flagstone, or other safe and attractive materials.

RPC URBAN DESIGN GUIDELINES

LANDSCAPE SCREENING OF NON-SIMILAR USES

Plant a continuous row of coniferous (evergreen) trees between non-similar uses. The landscape buffer provides a transition between different zones, creates privacy, screens unsightly areas and defines special areas. Trees at time of planting shall be a minimum of 15 feet high with at least 75% continuous opacity, planted in a diagonal grid.

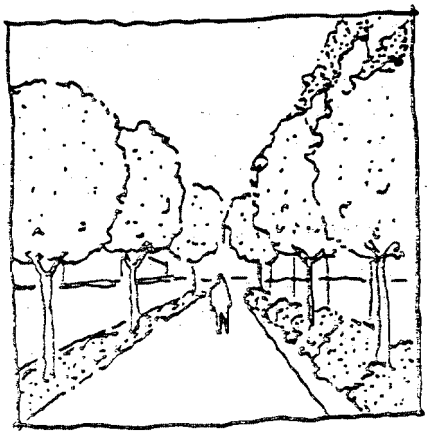


NON-SIMILAR USES

All developments in the RPC zone shall provide screening between non-similar uses.

These include:

1. residential/retail
2. residential/office
3. residential/major road
4. Metro tracks/any use
5. as otherwise indicated

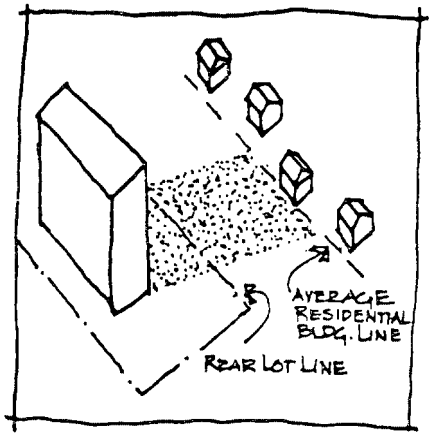


SCREEN RETAINING WALLS & FENCES

Plant a continuous landscape screen in front of retaining walls and fences to soften the mass and hard edges. Provide 75% opacity in a continuous row or staggered planting.

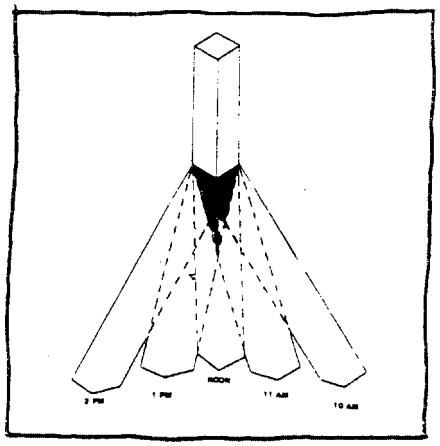
RPC URBAN DESIGN GUIDELINES
SOLAR ACCESS REQUIREMENTS

In order to minimize the impact of tall buildings on residential structures, no buildings may cast a shadow on adjacent residential structures between 10 a.m. and 2 p.m. as calculated for December 21. The shadows produced on December 21 are the longest of the year and compliance will result in lesser impacts during the remainder of the year.



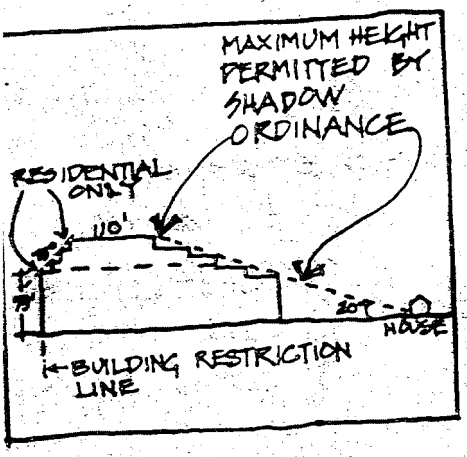
SHADOW STUDY

A shadow study is performed for developments that may cast shadows on residential structures. The shadow study follows the technique recommended for solar path diagrams in Architectural Graphics Standards, 7th Edition. This study should indicate the area where shadows will fall between 10 a.m. and 2 p.m. on December 21.



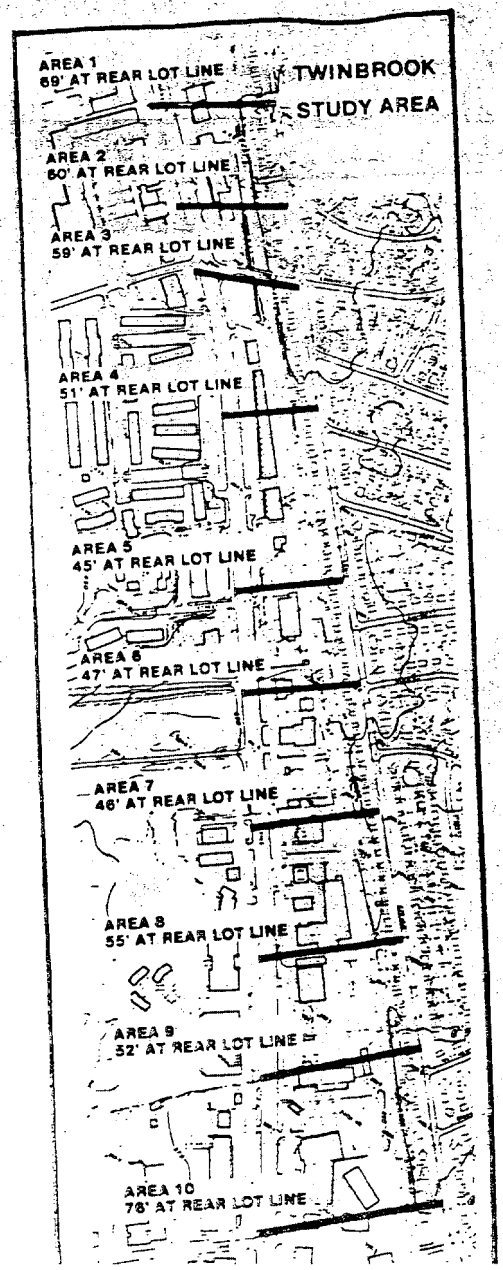
RESIDENTIAL TOWERS

Widely spaced towers are exempt from the solar access regulation. This is due to the small footprint of a tower that results in a thinner shadow which moves across the property quickly, much like a sundial. A residential tower is considered to be a building where the width is not more than 10% greater than the depth or vice versa. The separation between two towers must be at least equal to the height of the taller structure for them to be "widely spaced."



GENERAL APPLICATION

The accompanying sketches illustrate the general application of the Solar Access Requirement. The drawing to the left illustrates the maximum height permitted by the shadow ordinance; this approximates a 20° angle originating from the average residential building line. Compliance with the ordinance impacts the design of tall buildings, especially in light of the building envelope step-back required by the 45° layback plane along Rockville Pike.

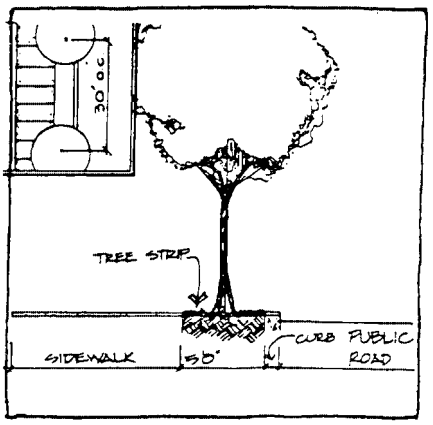


TWINBROOK CASE STUDY

The Twinbrook neighborhood was selected to test the effect of the Solar Access Requirements. Ten areas were designated for study and the average distance of the area's houses from the rear lot line of adjacent commercial properties was determined. A solar path diagram for 40° N. latitude was utilized for the study Rockville lies at 39' 15", which results in shorter shadows. In practice, the individual shadow studies will produce greater accuracy.

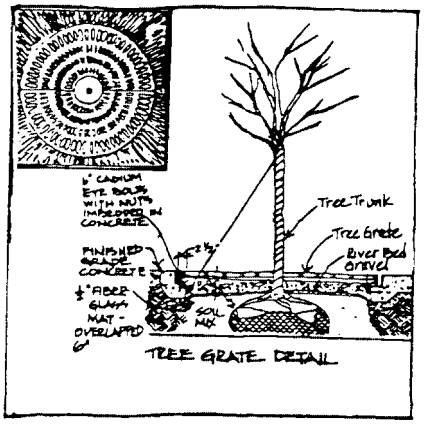
RPC URBAN DESIGN GUIDELINES
TREE PLANTINGS

The following guidelines attempt to make walking safe, convenient and attractive in the Rockville Pike Corridor.



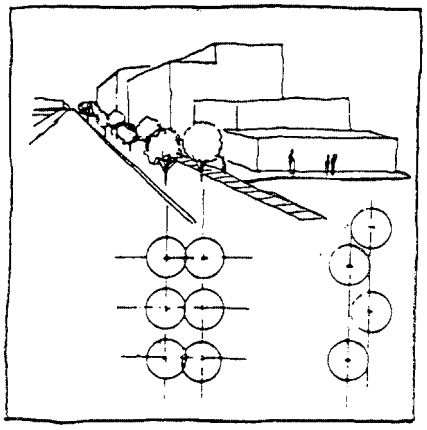
TYPICAL

Street trees shall be planted in continuous tree strips, a minimum of 5'-0" wide between the curb and sidewalk. Street trees at the time of planting shall be a minimum of 3.5 inch caliper, 15' high. Street trees shall be planted about 30' on center parallel to the street. In no cases should trees be planted more than 40' apart. Trees shall be selected from the City of Rockville's Approved Tree List.



GRATE DETAIL

When trees are to be planted in continuous paved areas they shall be planted in tree pits with grates.

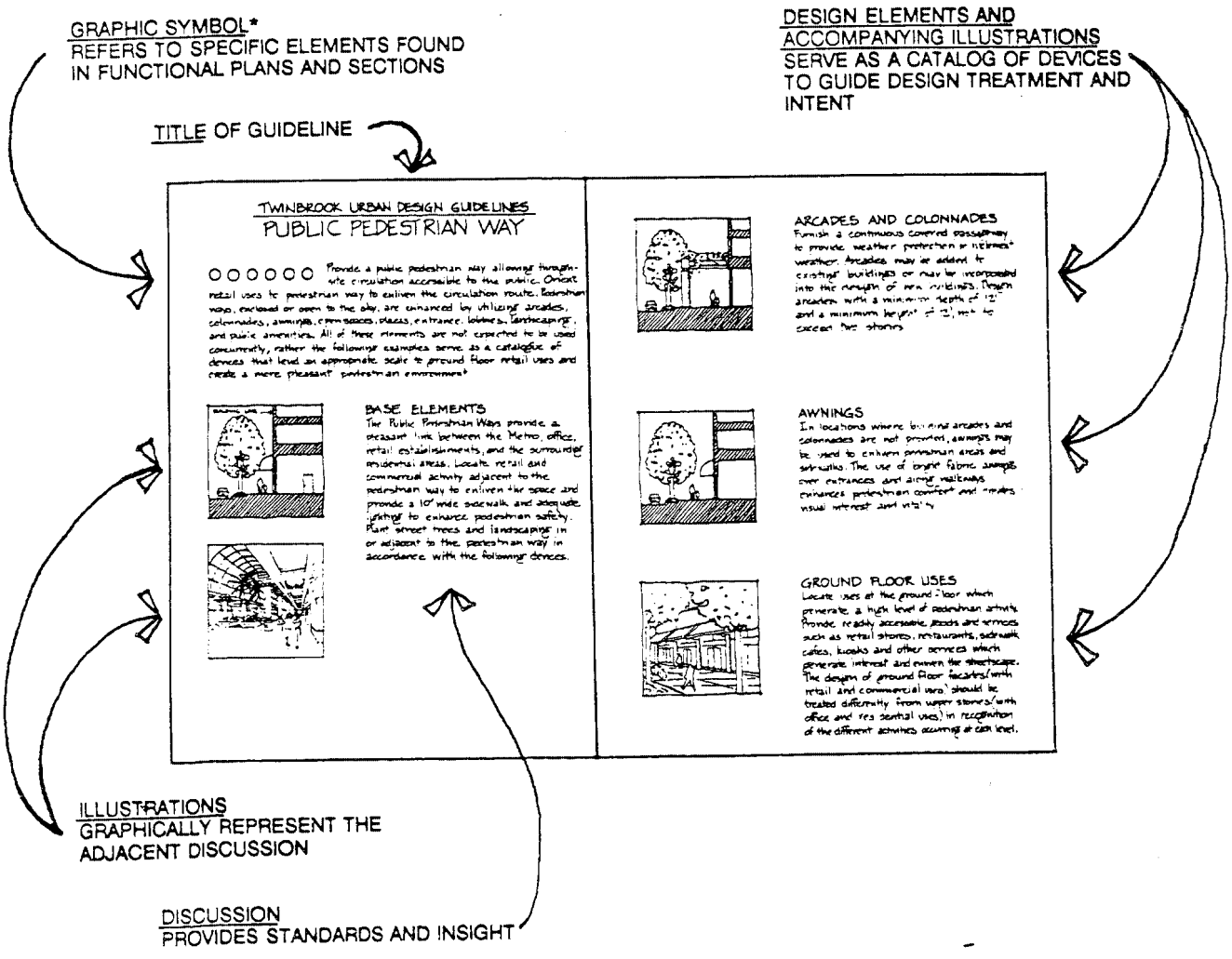


PLANTING GRIDS

Where parallel rows of trees frame a pedestrian way or other pathway, they shall be planted on a rectangular grid. In certain cases where the local site dictates, or, when 100% opacity is desired at the time of planting, trees may be planted in diagonal grids.

Urban Design Guidelines

The Urban Design Guidelines are intended to provide a framework which will ensure the quality of the built environment in the Metro Performance District. They serve as a general guide to developers and architects preparing for design review by illustrating the City's objectives. The guidelines highlight and supplement certain requirements set forth in the Zoning Ordinance in order to visually define the intent of the regulations and to give a number of suggestions for ways to achieve the desired outcome (see pages 94 to 119). Several ordering devices have been used to provide clarity and continuity.



*Where no symbol appears, the guideline illustrates a general recommendation for the entire Metro Performance District.

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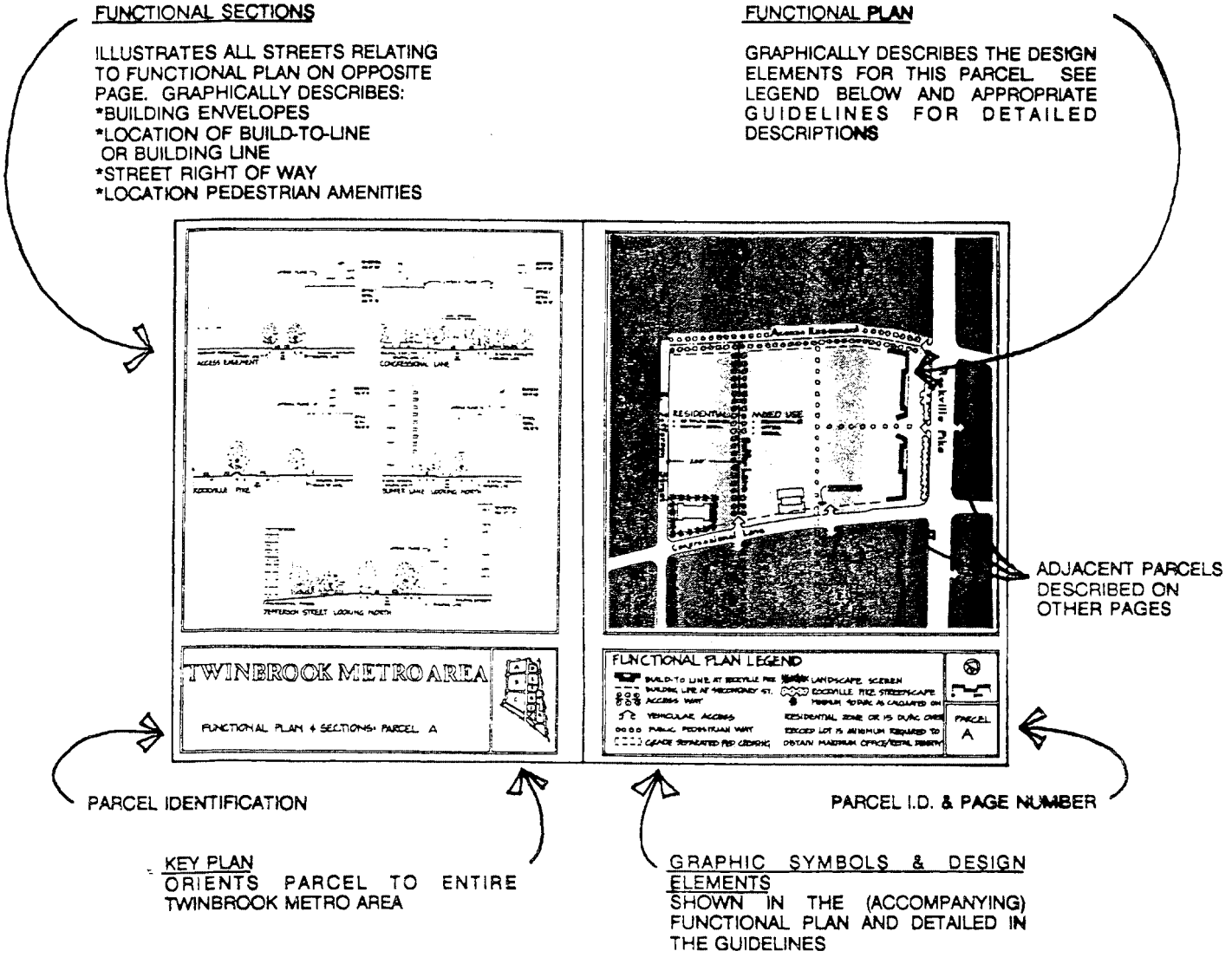
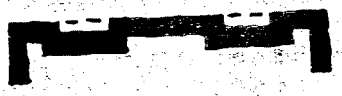
Functional Plans and Sections

The Functional Plans and Sections incorporate the Urban Design Goals, Strategies and Guidelines to guide the future development of specific parcels in the Metro Performance District. While the guidelines are generalizations considered applicable to all parcels in the Metro Performance District, the Functional Plans and Sections illustrate specific concepts for specific areas. Parcel-by-parcel design recommendations are used to provide guidance, reduce uncertainty and ensure quality in the built environment (see pages 120 to 132). Several ordering devices have been used to provide clarity and continuity.



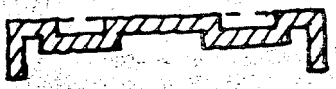
TWINBROOK URBAN DESIGN GUIDELINES

BUILD-TO LINES



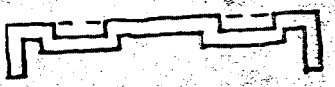
ROCKVILLE PIKE

Place at least 50% of the Rockville Pike facade 135' from the centerline of Rockville Pike to provide a consistent visual image. Orient retail and services to the street and provide amenities that promote pedestrian activity.



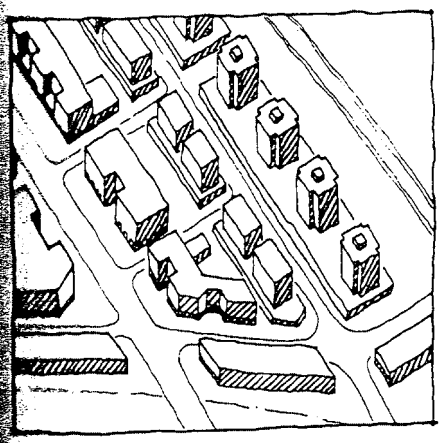
SECONDARY STREETS WITH RETAIL

Place at least 50% of the lower floors of buildings at the build-to line to create a street edge. Orient retail to the street on designated secondary streets (Rollins, Halpine, Chapman, Twinbrook Parkway) and provide pedestrian amenities. See individual street sections to determine the build-to line.



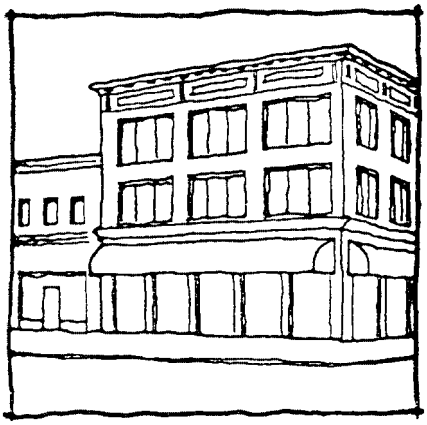
SECONDARY STREETS WITH RESIDENTIAL AND SUPPORT RETAIL

Place at least 50% of the lower floors of buildings at the build-to line to create a street edge. Orient support retail to the street to maintain a consistent visual image at the level of pedestrian activity. Residential units may be set back from the build-to line above the first floor.



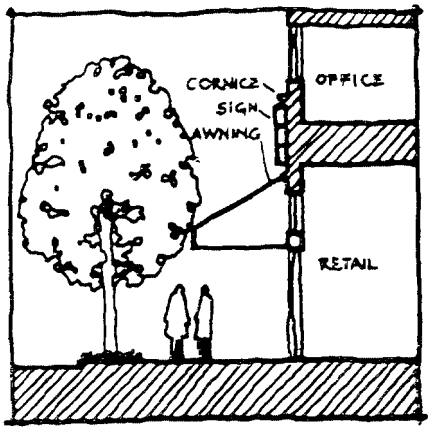
BUILD-TO LINE

A continuous building line creates a consistent street edge and provides a positive visual image to pedestrians and motorists. In order to achieve the desired sense of scale and space, it is most important to maintain this continuous edge at the lower floors of buildings where pedestrians and motorists are located. The shape of streets is improved and pedestrian comfort is enhanced by maintaining a uniform building line at the first two floors, although well-defined open spaces may punctuate the facade to add interest and scale.



FACADE TREATMENT

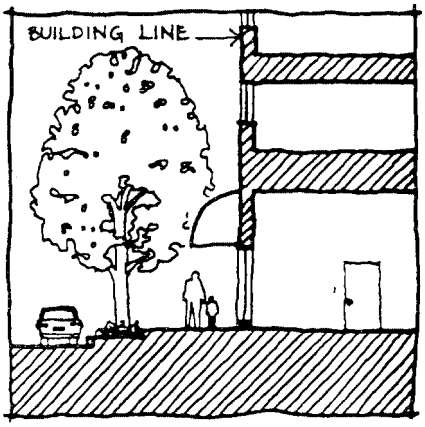
The design of ground floor facades should recognize the different activities occurring at each level. The upper level, with office and residential uses should complement the pedestrian level with its retail and commercial uses. Signs, special features, entrances, and service and parking access can be more easily integrated with the facade when the pedestrian level treatment recognizes the functional differences of the upper levels. This recognition can be achieved with cornices, changes of materials, and other devices that allow changes to occur at grade without affecting upper facades.

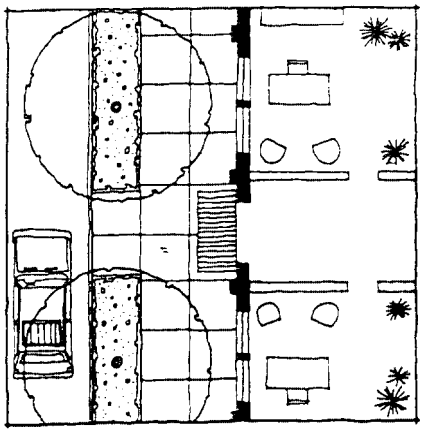


TWINBROOK URBAN DESIGN GUIDELINES

BUILDING LINE AT SECONDARY STREETS

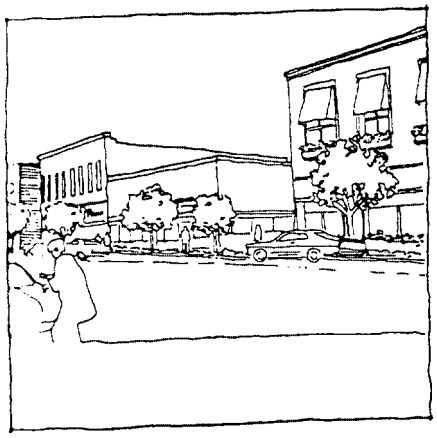
— — — — Place the lower floors of buildings at the building line or alternate building line and orient retail uses and services to the street. Create interest at the pedestrian level with landscaped setbacks, public amenities, awnings, plazas and other devices. Where the building line is not coincident with the Right-of-Way line, the building line shall accomodate the streetscape standards. Consult the Functional Plans and Sections for location and site-specific information.





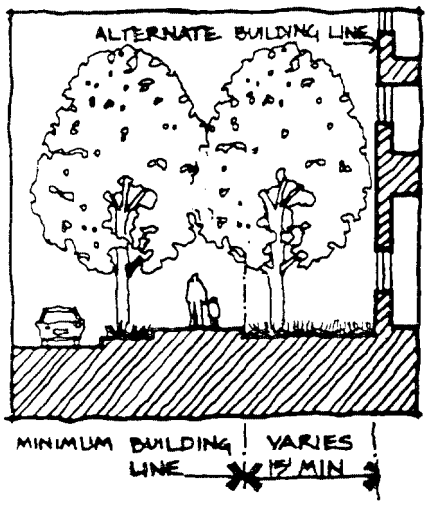
STREETSCAPE STANDARDS

The pedestrian environment should be made safe, convenient and attractive along secondary streets. To achieve this, the standard streetscape features a 5' wide tree planting strip along the roadway, and a 10' wide sidewalk at the building edge. Street trees shall be planted approximately 30' o.c. and not more than 40' apart. Trees shall be selected from the list of "Acceptable Trees for Street Planting in the City of Rockville, Maryland", and at the time of planting shall be a minimum of 3.5" in caliper and 15' high.



MINIMUM BUILDING LINE

Maintain visual continuity of the streetscape by placing the building edge at an established setback line. Secondary and minor streets may have significant pedestrian traffic even though there may be few shops or restaurants located along them. Pedestrian comfort should therefore remain as a prime design consideration.



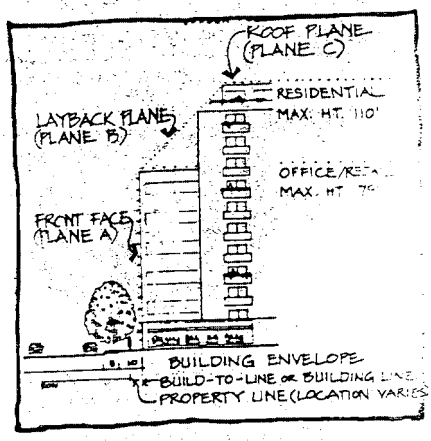
ALTERNATE BUILDING LINE

No setback from the standard streetscape is required. However, if one is desired or proposed, provide a minimum 15' setback and include an additional row of trees on the building side of the sidewalk. The alternate building line may be interrupted to create plazas, open spaces and courtyards. The pedestrian environment can be enhanced by locating parking behind the building and by providing safe and attractive through-circulation for pedestrians.

TWINBROOK URBAN DESIGN GUIDELINES

BUILDING ENVELOPE

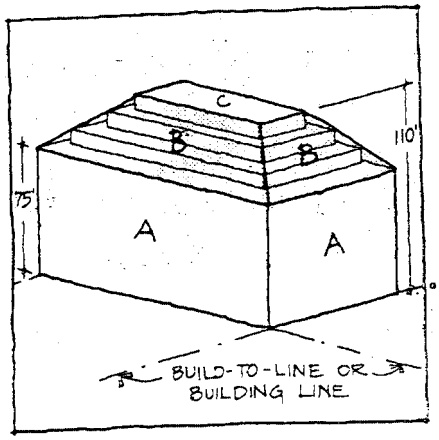
Building envelopes define the vertical and horizontal boundaries of buildable area on individual sites. Consistent relationships between the street and new buildings result from the application of the building envelopes. They ensure that new developments are compatible with surrounding neighborhoods by providing adequate light and air for nearby structures and adjacent streets. Parcel by parcel building envelopes are indicated in the Functional Plans and Sections. Characteristic elements are embodied in the accompanying illustrations and descriptions.



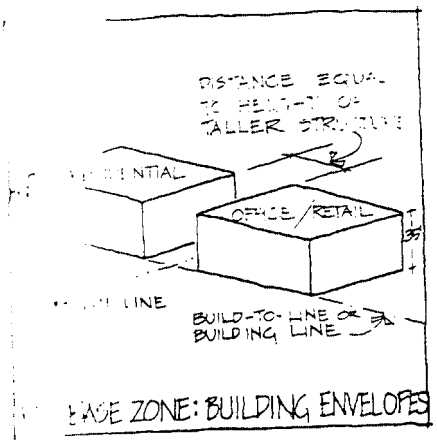
DESCRIPTION

Building Envelope is defined by a combination of the following restrictions:

- height of building
- layback plane
- distance between building and lot lines (setbacks)
- distance between building and street (build-to/bldg line)
- distance between adjacent buildings
- solar access requirements
- maximum F.A.R.
- residential density
- permitted uses
- required open space on the lot



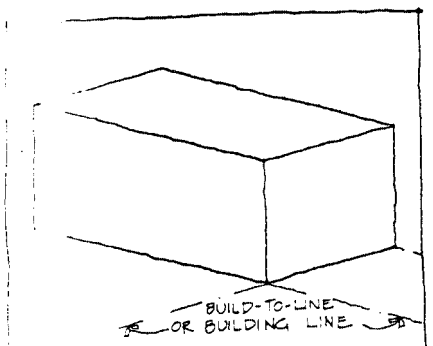
A typical example of the building envelope shows the front face of the building (Plane A) rising vertically from the build-to line or building line to a height of 75'. The area up to 75' may contain office, retail or residential, and no portion of the building face may penetrate this plane. Plane B is referred to as the layback plane and rises at a 45° angle from the top of Plane A (75'). This area above 75' may contain only residences and no portion of the building may penetrate the layback plane. The roof (Plane C) represents the maximum ht of residential buildings in the Twinbrook Metro Area (110').



BASE ZONE: BUILDING ENVELOPES

RPC BASE ZONE

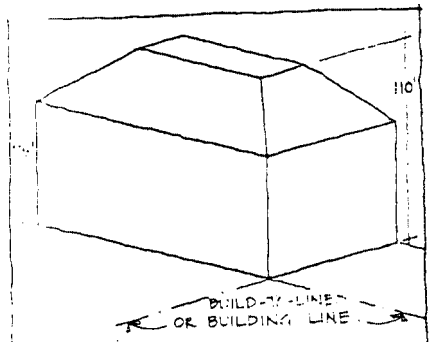
Commercial and residential building envelopes are limited in height to 35'. No setbacks from the side or rear lot lines are required unless residential land abuts the adjacent lot. In that case, the setback must equal the building height of the taller structure.



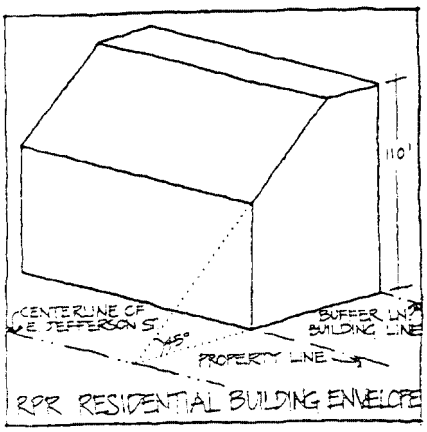
OPT. METHOD: METRO AREA
MMERCIAL BUILDING ENVELOPE

RPC OPTIONAL METHOD ZONE: TWINBROOK METRO AREA

Commercial building envelopes shall be limited in height to 75'. The height of a residential building is also limited to 75' where it is coincident with the build-to line or building line, however it may extend to a height of 110' if it does not penetrate the layback plane. The two drawings to the left illustrate the building envelopes for commercial and residential structures in the Twinbrook Metro Area.



RPC OPT. METHOD: METRO AREA
RESIDENTIAL BUILDING ENVELOPE



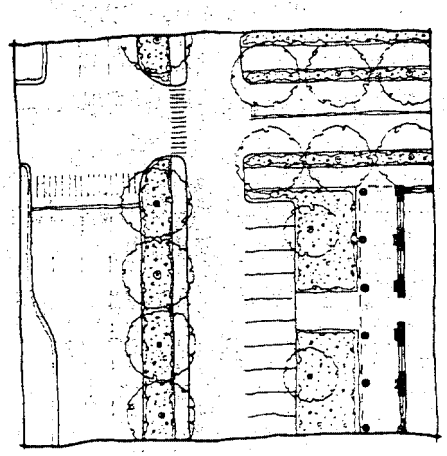
RPR RESIDENTIAL BUILDING ENVELOPE

RPR ZONE

The building envelope for the RPR Zone allows new residential development to relate well to existing residences on the west side of E. Jefferson St. Buildings shall lie within an envelope defined by a height setback plane that is measured from the centerline of E. Jefferson St. and rises at a 45° angle to a height of 110'.

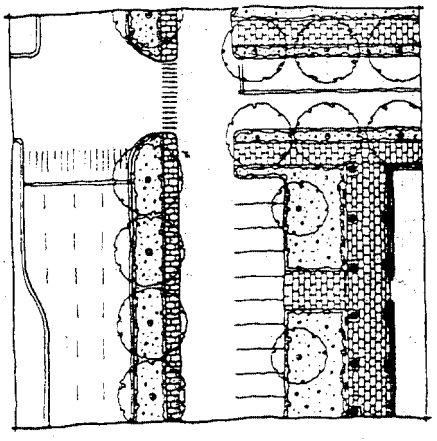
TWINBROOK URBAN DESIGN GUIDELINES
ROCKVILLE PIKE STREETSCAPE

Provide a consistent visual image along Rockville Pike. A pleasant pedestrian environment can be achieved by lining the street level with arcades and retail stores that adjoin the sidewalk and by following the Streetscape Requirements, City of Rockville Sign Ordinance, and Access Management Plan.



BASE LEVEL DEVELOPMENT

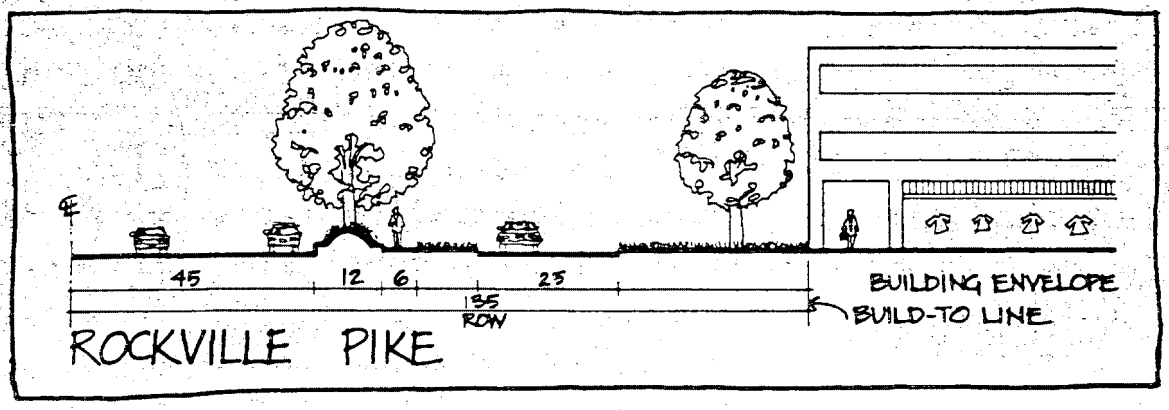
The streetscape treatment includes a landscaped berm with trees at the road edge, a 6' wide concrete sidewalk and a service drive. Maintain the build-to line at a distance of 135' from the centerline of Rockville Pike to provide a consistent visual image. Street trees shall be a minimum 3.5 inches in caliper, 15' high, and planted no more than 30' apart.



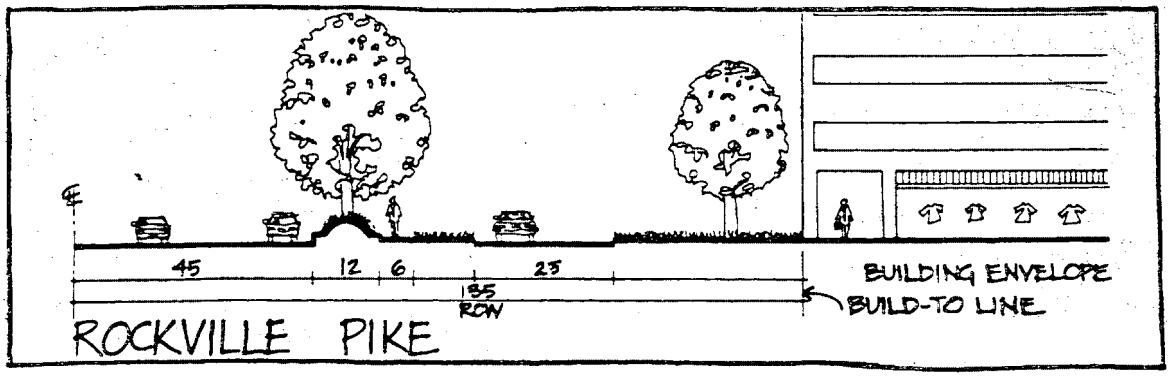
OPTIONAL METHOD DEVELOPMENT

In addition to the minimum requirements stated above, optional method developments shall include the following:

- splash block at Rockville Pike curb edge
- London walk pavers
- additional berm landscaping
- tree bed with landscaping at building edge



BASE LEVEL DEVELOPMENT



OPTIONAL METHOD DEVELOPMENT

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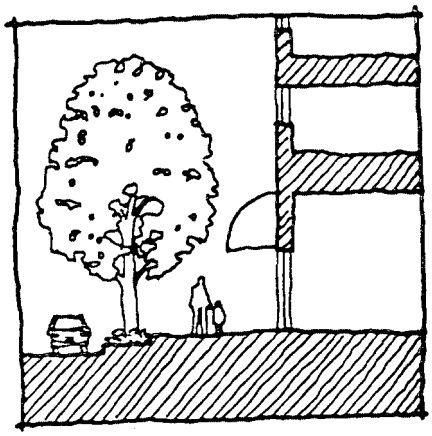
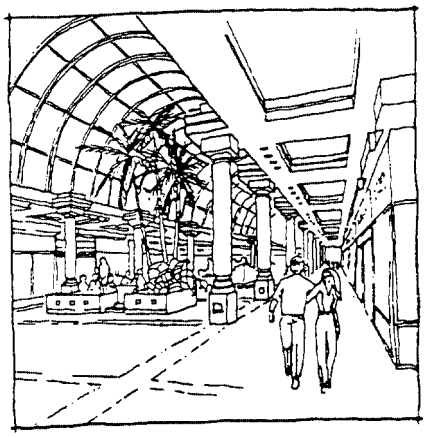
TWINBROOK URBAN DESIGN GUIDELINES

PUBLIC PEDESTRIAN WAY

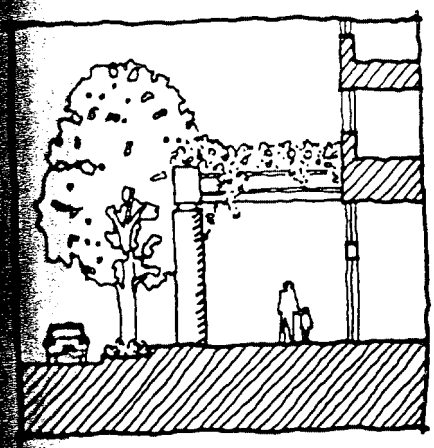
OOOOOO Provide a public pedestrian way allowing through-site circulation accessible to the public. Orient retail uses to pedestrian way to enliven the circulation route. Pedestrian ways, enclosed or open to the sky, are enhanced by utilizing arcades, colonnades, awnings, open spaces, plazas, entrance lobbies, landscaping, and public amenities. All of these elements are not expected to be used concurrently, rather the following examples serve as a catalogue of devices that lend an appropriate scale to ground floor retail uses and create a more pleasant pedestrian environment.





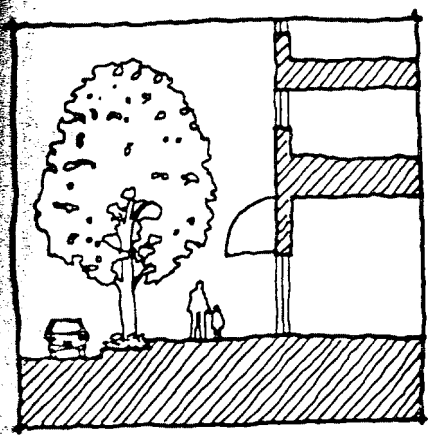
BASE ELEMENTS

The Public Pedestrian Ways provide a pleasant link between the Metro, office, retail establishments, and the surrounding residential areas. Locate retail and commercial activity adjacent to the pedestrian way to enliven the space and provide a 10' wide sidewalk and adequate lighting to enhance pedestrian safety. Plant street trees and landscaping in or adjacent to the pedestrian way in accordance with the following devices.



ARCADES AND COLONNADES

Furnish a continuous covered passageway to provide weather protection in inclement weather. Arcades may be added to existing buildings or may be incorporated into the design of new buildings. Design arcades with a minimum depth of 12' and a minimum height of 12', not to exceed two stories.

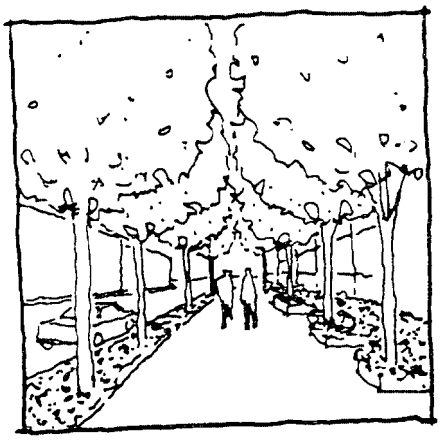


AWNINGS

In locations where building arcades and colonnades are not provided, awnings may be used to enliven pedestrian areas and sidewalks. The use of bright fabric awnings over entrances and along walkways enhances pedestrian comfort and creates visual interest and vitality.

GROUND FLOOR USES

Locate uses at the ground floor which generate a high level of pedestrian activity. Provide readily accessible goods and services such as retail stores, restaurants, sidewalk cafes, kiosks and other services which generate interest and enliven the streetscape. The design of ground floor facades (with retail and commercial uses) should be treated differently from upper stories (with office and residential uses) in recognition of the different activities occurring at each level.

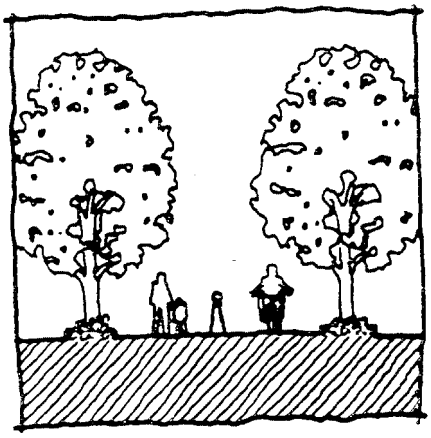


LANDSCAPING

Landscaping adds significantly to the quality of the environment and includes street trees, ornamental plantings, hedges and vegetation for buffering and screening. Landscaping softens building mass and hard edges, provides continuity between different developments, and defines walkways, open spaces, and special areas such as entrances.

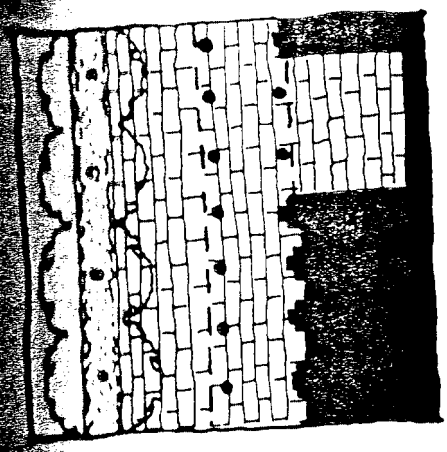
PUBLIC AMENITIES

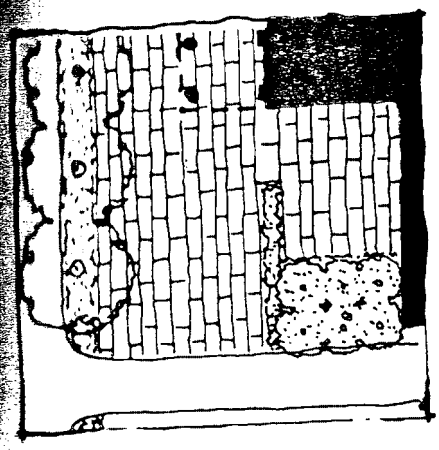
Public amenities such as artwork, kiosks, water features, street furniture, and attractive lighting defines and enriches the Pedestrian Way. Design these amenities as part of the pedestrian space so as not to interfere with pedestrian movement.

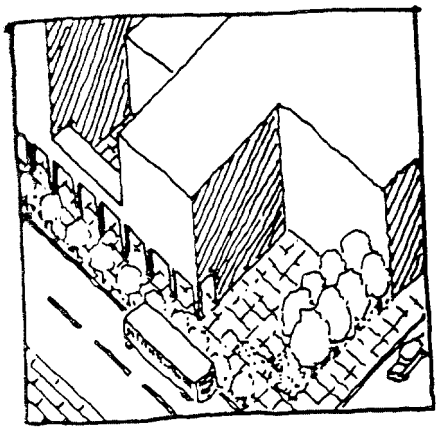


BIKE PATHS

Bike paths provide an alternate mode of transportation and should be at least 10' wide and separated from the Pedestrian Way by either bollards or a continuous landscape strip.

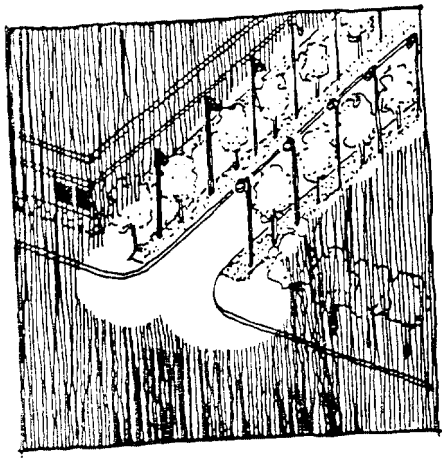






OPEN SPACES, PLAZAS, COURTYARDS

The walking environment is enriched by locating open spaces, plazas and courtyards along the Pedestrian Way. The spaces are defined by the strength of their edges; the design should avoid weak edges that create amorphous spaces which lack focus. Successful open spaces are defined on at least three sides with buildings, walls or landscaping. Space definition and focus within open spaces are created by the use of landscaping and public amenities.



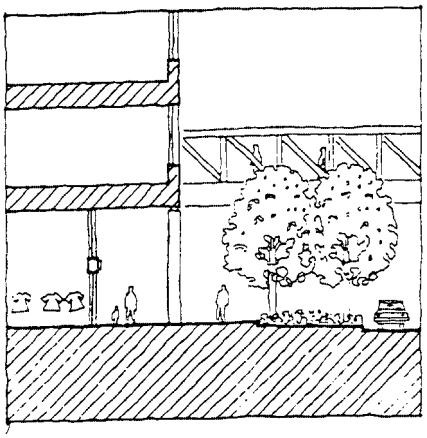
LIGHTING

The Pedestrian Way should be adequately lit for greater safety and security, and to improve pedestrian orientation and visibility. Coordinated fixtures contribute to the creation of a unified and pleasing appearance, and should be decorative wherever possible.

TWINBROOK URBAN DESIGN GUIDELINES

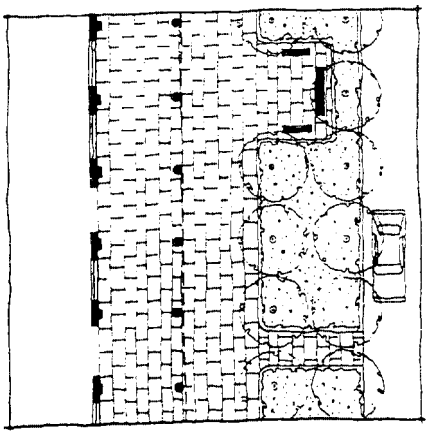
HALPINE PROMENADE

Provide a continuous 25' public pedestrian way on the north side of Halpine Road as outlined below. Establish a strong pedestrian connection between the Twinbrook Metro Station and the commercial and residential neighborhoods west of Rockville Pike, by creating a handsome walkway lined with shops, cafes, arcades, landscaping and public amenities.



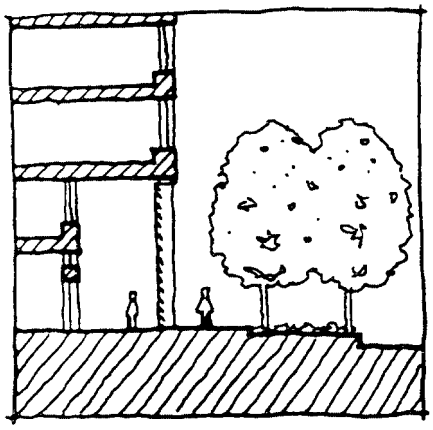
ELEMENTS OF THE PROMENADE

The 25' wide promenade includes a 5' planting strip, a 10' landscape feature (see below) and a 10' minimum sidewalk. Adjacent to the sidewalk is a continuous arcade with retail uses oriented to the arcade.



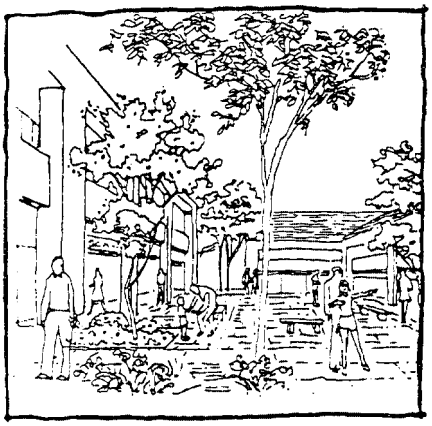
LANDSCAPE FEATURE

The landscape feature includes a row of trees that may be interrupted to create seating nooks and other spaces for pedestrian amenities. Varying the width of the landscape feature can create these special areas or to focus on specimen plantings. Provide at least 60% of the landscape feature with trees, ground cover and flowers. Adjacent to the landscape feature is the 5' tree planting strip that occurs on all streets in the Twinbrook Metro Area.



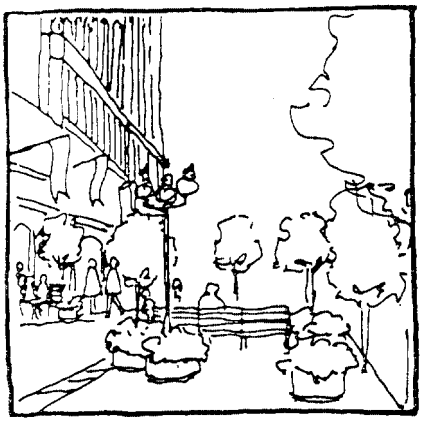
ARCADES AND COLONNADES

Provide a continuous covered passageway for weather protection in inclement weather. Locate arcade adjacent to sidewalk. Design arcades with a minimum depth of 12' and a minimum height of 12', not to exceed two stories.



OPEN SPACES, PLAZAS, COURTYARDS

The promenade is enriched by locating open spaces, plazas, and courtyards along the pedestrian walkway and arcade. The open spaces provide areas for sidewalk cafes and other points of focus along the walkway. The building line may be interrupted as long as the continuous arcade is maintained.



PUBLIC AMENITIES

The promenade is enriched with amenities such as art work, water features, street furniture, attractive lighting and special paving treatment. Design these elements as part of the pedestrian space so as not to interfere with pedestrian movement.

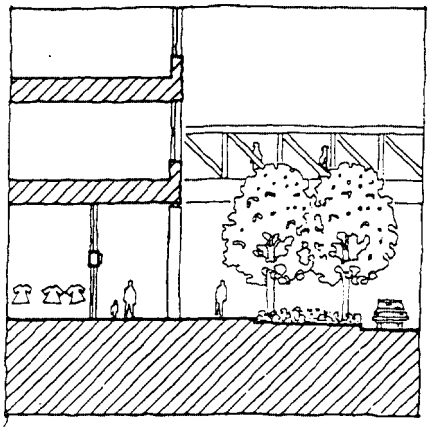
GROUND FLOOR USES

Orient retail uses to the arcade to create a high level of pedestrian activity. The design of ground floor facades (retail/commercial uses) should be treated differently from upper stories (office/residential uses) in recognition of the different activities occurring at each level.

TWINBROOK URBAN DESIGN GUIDELINES

GRADE SEPARATED PEDESTRIAN CROSSING

Enclosed pedestrian ways that cross above or below public and private roads may be provided. An undobstructed walking area at least 12' wide should be designed in a style and character consistent with the connecting buildings. The crossing is not a mandatory requirement, however the City encourages a continuous passageway to facilitate pedestrian movement.

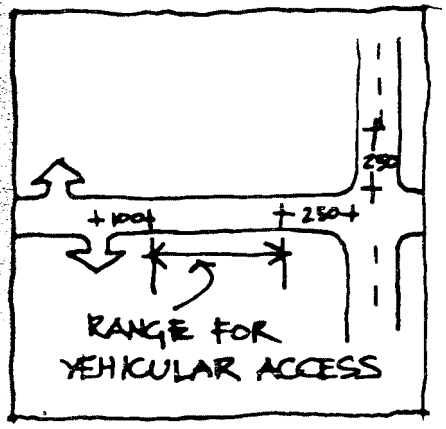


OVERPASS

An overpass is a pedestrian bridge connecting buildings at the second floor, and is reached by escalators from the ground. It may include activities such as retail stores and cafes.

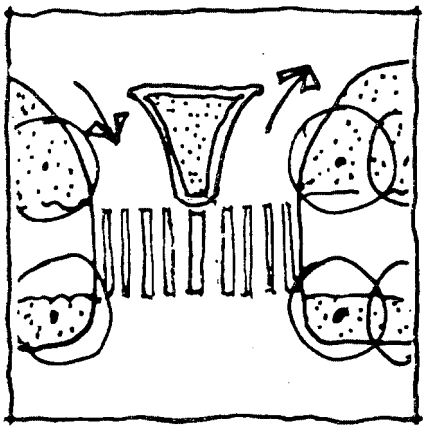
VEHICULAR ACCESS TO PRIVATE SITES

Vehicular access to private sites is provided by private drives from public ways. Guidance for the location of access points is contained in the Functional Plans and the Access Management Plan. These points of entry are based on the following criteria as adjusted for actual conditions.



RANGE OF VEHICULAR ACCESS

No vehicular access should occur within 250' of an intersection nor within 100' of another point of vehicular access. In order to improve traffic operations and safety, the number of vehicular access points shall be limited. The alignment of vehicular access must be coordinated on both sides of the roadway.



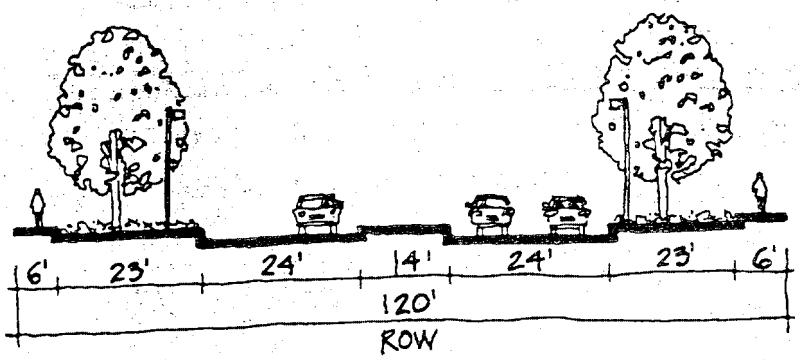
RIGHT IN-RIGHT OUT CURB CUTS

Access to and from sites via right turns is encouraged. The locations indicated are approximate and actual location will be based on safety and efficient traffic operations.

TWINBROOK URBAN DESIGN GUIDELINES

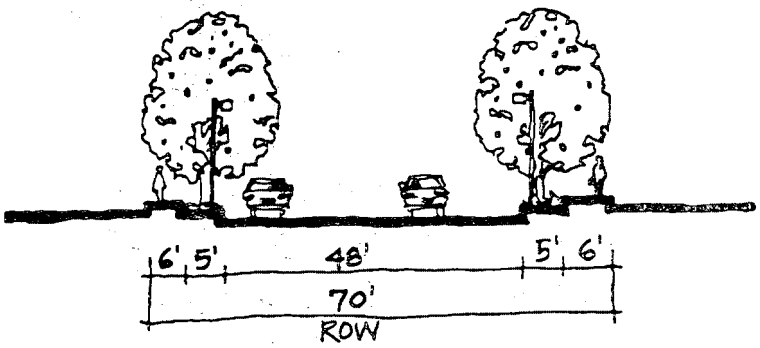
PUBLIC ROADWAYS

Vehicular movement is enhanced by improving the existing roadway network in the Rockville Pike Corridor. These improvements offer more options to motorists, increase the efficiency of local circulation, improve access to properties, and decrease intersection congestion. All developments within the Rockville Pike Corridor that dedicate a public right of way or easement for improvements shown in the Plan may include the dedicated area in the net lot area for the purpose of calculating F.A.R. The following roadway standards are required for dedication and construction of new roads in the City:



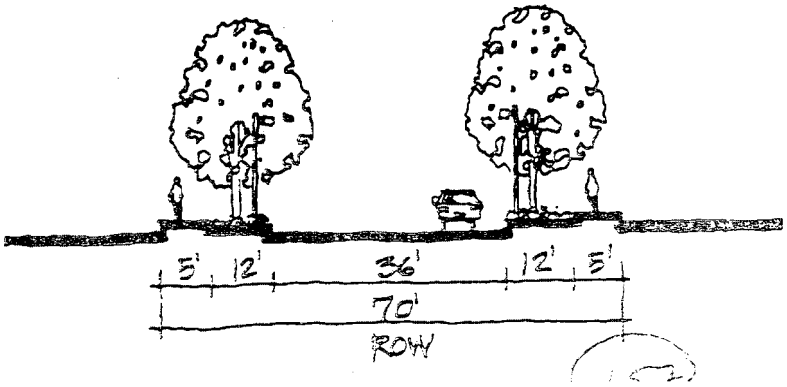
ARTERIAL

Arterial roads are built in a right-of-way at least 120' wide, containing two 24' paved sections separated by a 14' median strip. Curbs, gutters, sidewalks, lighting and landscaping also must be provided.



BUSINESS DISTRICT

Business district roads are built in a right-of-way at least 70' wide, containing a 48' pavement width. Curbs, gutters, sidewalks, lighting and landscaping also must be provided.



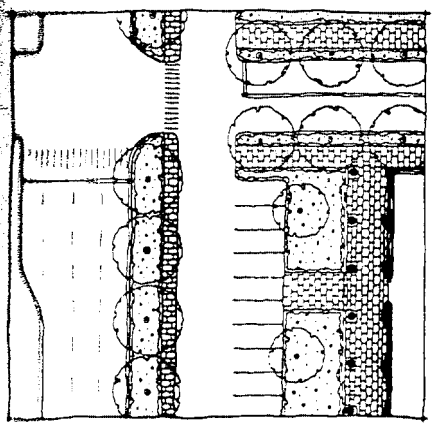
PRIMARY RESIDENTIAL

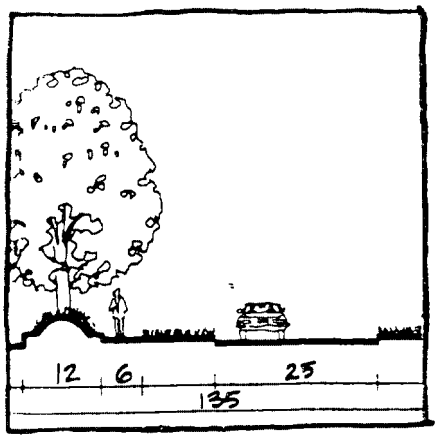
Primary residential roads are built in a right-of-way at least 70' wide containing a minimum pavement width of 36' for vehicular traffic. Curbs, gutters, sidewalks, lighting and landscaping also must be provided.

TWINBROOK URBAN DESIGN GUIDELINES

SERVICE DRIVE

Service drives are designed to separate local traffic from through traffic along Rockville Pike. The service drive enhances safety and accessibility by enabling motorists to travel between nearby businesses and to exit parking areas at planned intervals. All developments that dedicate an easement for the service drive may include the dedicated area in the net lot area for the purpose of calculating F.A.R.





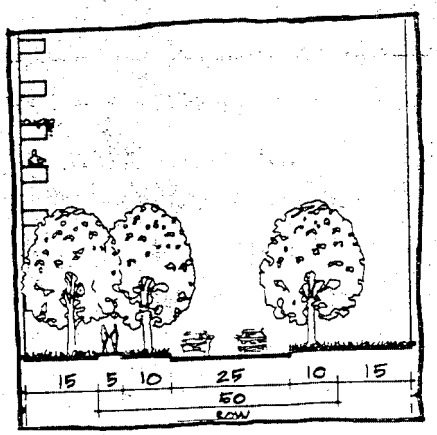
DESIGN STANDARDS

The service drive, provide a convenient system to ensure free circulation of vehicular traffic and can function as a well-defined parking lot aisle with head-in parking permitted on both sides. The coordinated alignment between adjacent properties increases its functional efficiency and its value as an organizing visual element. The width of the service drive may not be less than 25! The location of entrance and exit driveways shall be in substantial accordance with the Rockville Pike Access Management Plan.

TWINBROOK URBAN DESIGN GUIDELINES

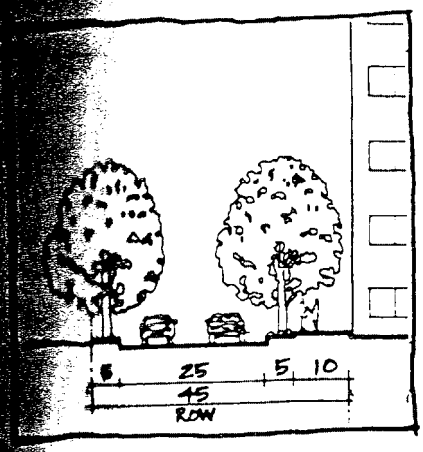
ACCESS WAYS

Separate non-compatible uses with a two-lane access roadway lined on both sides with a continuous row of trees. Access ways provide a transition between residential and mixed use zones and create privacy for the residential units by screening commercial and retail uses.



BUFFER LANE

The roadway allows vehicular access to the interior of the site, and extends a pleasant pedestrian environment beyond the Halpine Promenade. Buffer Lane includes a 25' two-lane road, flanked on both sides by 10' continuous landscape strips with trees, and on the side of the residential development, a 5' wide tree-lined sidewalk. A minimum 15' setback exists on both sides of the easement. If on-grade parking is placed within the setback area, it must include a continuous tree bed with additional landscaping at the sidewalk edge, as well as all screening pertaining to paking lots.

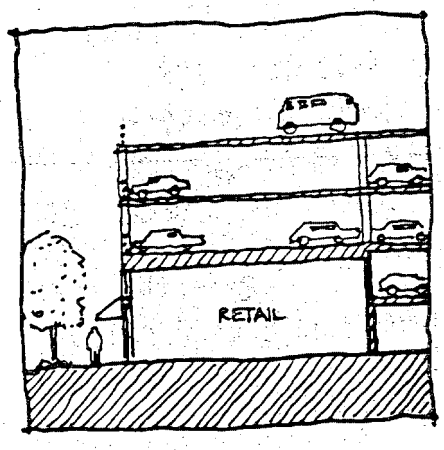


ACCESS EASEMENT

The roadway allows vehicular and pedestrian access to the interior of the site and provides a transition between residential and commercial/mixed uses. Access easement includes a 25' two-lane roadway, flanked on both sides by 5' continuous landscape strips with trees, and a 10' sidewalk on the south side. No setbacks from the sidewalk are required, however if one is provided it shall be a minimum of 15' and include an additional row of trees and landscaping adjacent to new buildings.

TWINBROOK URBAN DESIGN GUIDELINES
PARKING STRUCTURE TREATMENT

Parking structures should be sensitively designed to assure the harmonious integration of each facility with the adjacent commercial and residential development, as well as with its natural environment. A sense of visual harmony can be achieved through the use of compatible materials, coordinated landscaping and screening, appropriate building color, sensitive lighting and signage, and the design of related amenities.

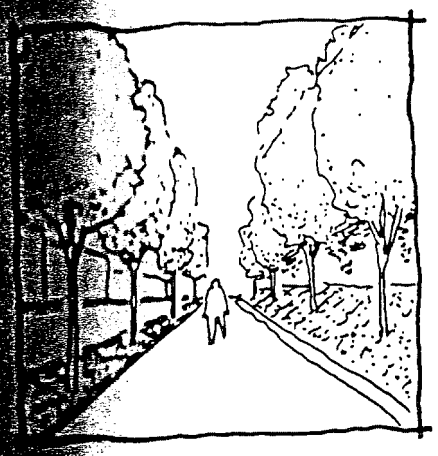


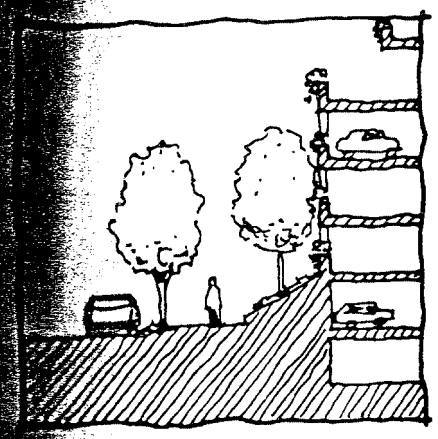
GROUND FLOOR USES

The effect of parking structures can be minimized by placing retail use along the street frontage. This creates interest and activity at the ground floor where pedestrians and motorists are located.

FACADE TREATMENT

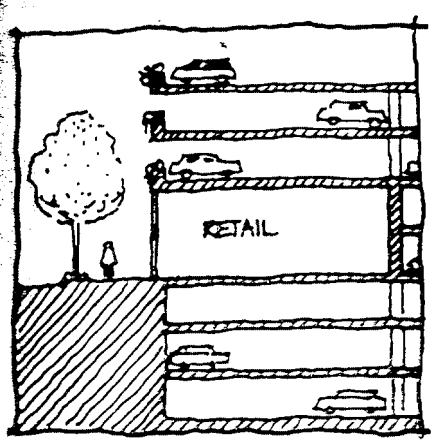
Parking structure facades should achieve the same high quality design and appearance as the buildings they serve. Minimize the parking structure's utilitarian appearance by utilizing effective design treatments such as colonnades, arcades, awnings, street furniture and other public amenities.





LANDSCAPING

Where ground floor retail is inappropriate, the use of landscaping is effective in softening hard edges and minimizing bulk. A structure may be set back from the building line to allow for an additional row of trees, berms and plantings. If constructed at the building line, the appearance may be improved with planters and stepped-back upper floors. Openings for vehicular access should avoid crossing major pedestrian paths and are subject to review by a Design Review Board, and must conform with the Rockville Pike Corridor Neighborhood Plan.



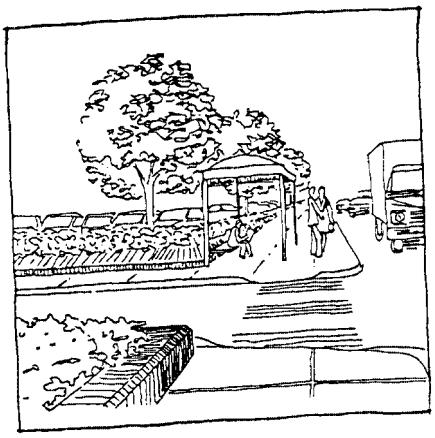
PARKING STRUCTURE HEIGHT

The height of parking structures should be minimized, especially at the street edge. The height of parking facilities that are placed at the street edge should not exceed 35' above grade, and will not be eligible for the additional building height available in the Optional Method of development. If a structure is enclosed within a building complex and not visible from the street, the building height restriction is 75'. Underground levels are encouraged to increase parking capacity.

TWINBROOK URBAN DESIGN GUIDELINES

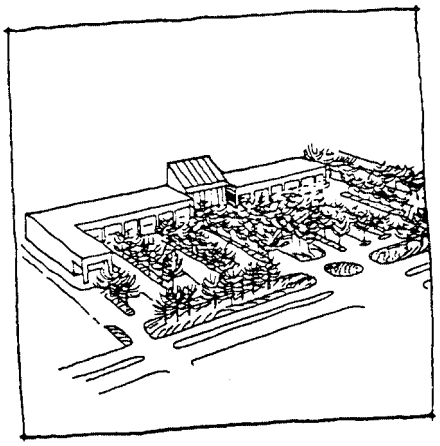
PARKING LOT TREATMENT

Parking lots should be screened from view from public roads and adjacent residential or developed areas. Buffering and screening shields unsightly areas and parked cars, defines special areas, creates attractive views and provides a cohesive transition between non-similar uses.



PARKING LOT EDGES

Parking lots adjacent to public rights-of-way shall be screened with evergreen plantings, ground-covered berms or walls at least 2.5 feet high. Achieve at least 75% continuous opacity to soften the visual impact. Parking lots adjacent to or opposite residentially zoned or developed land shall be screened to a height of 5' with evergreen plantings, walls or earth berms achieving 100% opacity.



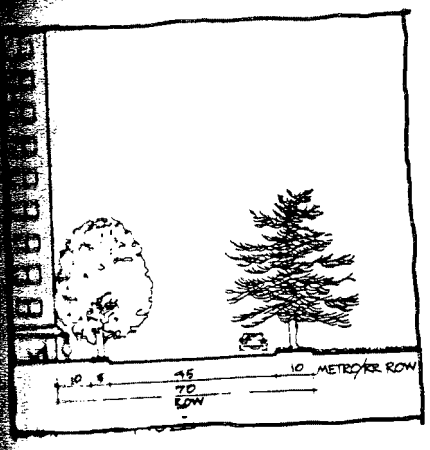
PARKING LOT INTERIORS

Deciduous trees should be used in parking lots to relieve the monotony of large paved masses. Trees planted approximately 30' apart in continuous beds of ground cover provide an overhead canopy and define the space by directing the line of pedestrian and vehicular movement. Walkways should be separated from vehicular traffic by elevation, landscaping or surface treatments such as brick pavers, flagstone, or other safe and attractive materials.

TWINBROOK URBAN DESIGN GUIDELINES

LANDSCAPE SCREENING OF NON-SIMILAR USES

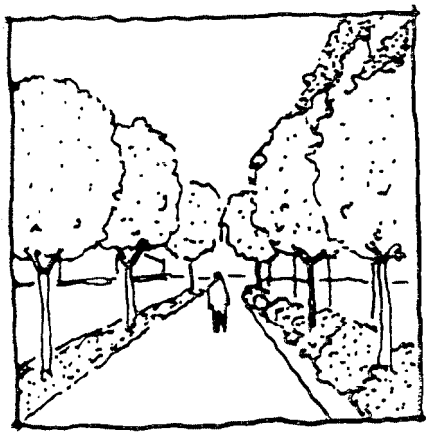
Plant a continuous row of coniferous (evergreen) trees between non-similar uses. The landscape buffer provides a transition between different zones, creates privacy, screens unsightly areas and defines special areas. Trees at the time of planting shall be a minimum of 15' high with at least 75% continuous opacity, planted in a diagonal grid.



NON-SIMILAR USES

All developments in the Twinbrook Metro Area shall provide screening between non-similar uses as shown in the Functional Plans and Sections. These include:

- residential/retail
- residential/office
- residential/major road
- Metro tracks/any use
- as otherwise indicated on Functional Plans and Sections

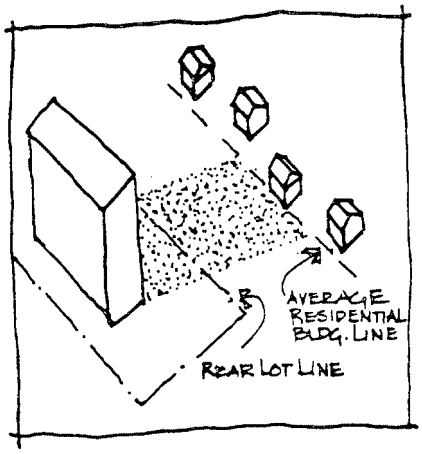


SCREEN RETAINING WALLS & FENCES

Plant a continuous landscape screen in front of retaining walls and fences to soften the mass and hard edges. Provide 75% opacity in a continuous row or staggered planting.

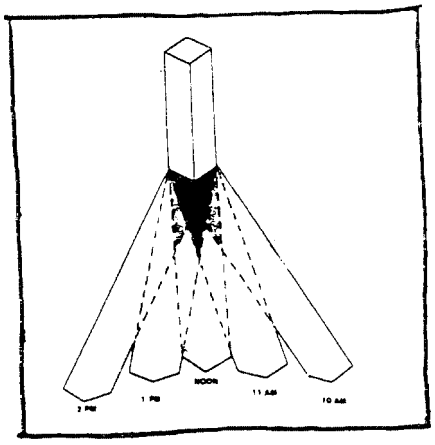
TWINBROOK URBAN DESIGN GUIDELINES
SOLAR ACCESS REQUIREMENTS

In order to minimize the impact of tall buildings on residential structures, no buildings may cast a shadow on adjacent residential structures between 10 a.m. and 2 p.m. as calculated for December 21. The shadows produced on December 21 are the longest of the year and compliance will result in lesser impacts during the remainder of the year.



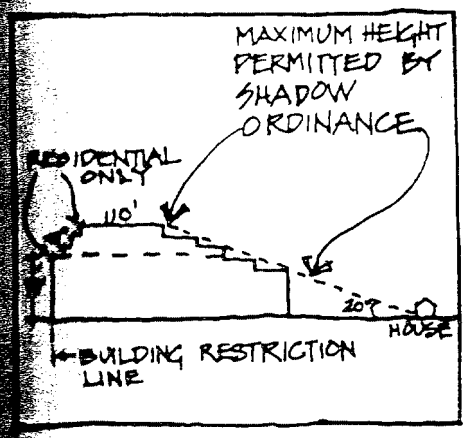
SHADOW STUDY

A shadow study is performed for developments that may cast shadows on residential structures. The shadow study follows the technique recommended for solar path diagrams in Architectural Graphics Standards, 7th Edition. This study should indicate the area where shadows will fall between 10 a.m. and 2 p.m. on December 21.



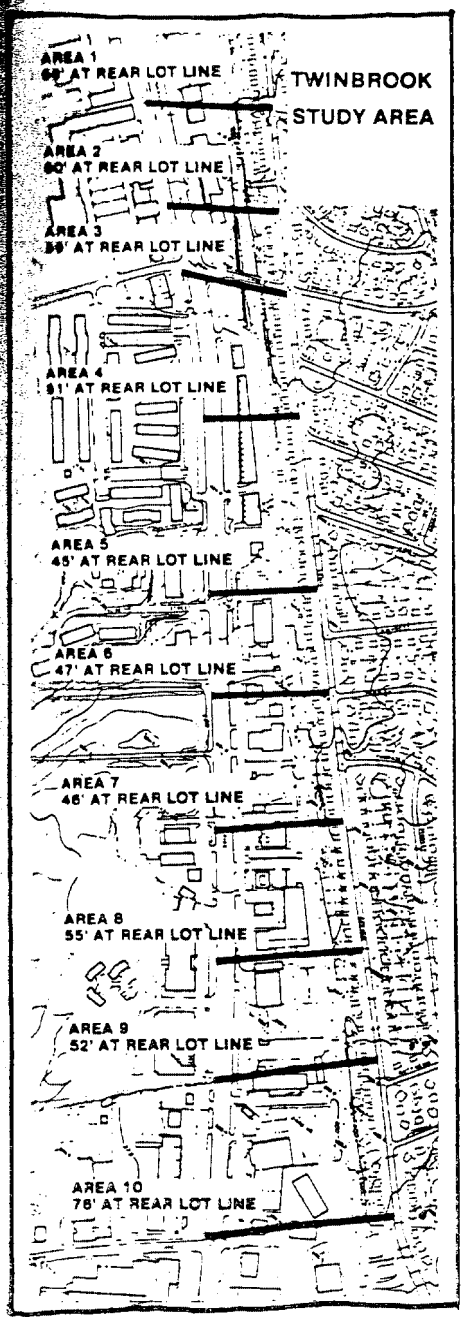
RESIDENTIAL TOWERS

Widely spaced towers are exempt from the solar access regulation. This is due to the small footprint of a tower that results in a thinner shadow which moves across the property quickly, much like a sundial. A residential tower is considered to be a building where the width is not more than 10% greater than the depth or vice versa. The separation between two towers must be at least equal to the height of the taller structure for them to be "widely spaced."



GENERAL APPLICATION

The accompanying sketches illustrate the general application of the Solar Access Requirement. The drawing to the left illustrates the maximum height permitted by the shadow ordinance; this approximates a 20° angle originating from the average residential building line. Compliance with the ordinance impacts the design of tall buildings, especially in light of the building envelope step-back required by the 45° layback plane along Rockville Pike.



TWINBROOK CASE STUDY

The Twinbrook neighborhood was selected to test the effect of the Solar Access Requirements. Ten areas were designated for study and the average distance of the area's houses from the rear lot line of adjacent commercial properties was determined. A solar path diagram for 40° N. latitude was utilized for the study. Rockville lies at 39'15", which results in shorter shadows. In practice, the individual shadow studies will produce greater accuracy.

ATTACHMENT 1 I

City of Rockville

MEMORANDUM

August 26, 2004

TO: Bob Spalding, Chief of Planning, AICP

FROM: Randy Clay, Planning Technician RC

SUBJECT: Sidewalk Design Standards

BACKGROUND

The Mayor and Council have raised concerns about appropriate sidewalk standards for the Town Center. Staff has conducted a survey of recommended sidewalk standards for mixed use commercial areas to provide background information for further consideration.

The survey includes recommended standards from nationally recognized experts such as the U.S. Dept. of Transportation, Walkable Communities, Inc. (Dan Burden), Duany Plater-Zyberk, The Institute of Transportation Engineers, and American Planning Association. The survey also includes standards from other urbanized commercial areas in California, Oregon, Virginia, Texas, Georgia, Massachusetts, Washington, and Washington, D.C.

The following table includes the results from individual sources:

Comparative Analysis of Sidewalk Standards

Developed Area Classification	Commercial and Mixed Use Areas/Major Pedestrian Corridors/Urban Core/Urban Center Business District/Transit Corridors/Downtowns/Town Centers
Pedestrian Travel Zone	
Desirable	8 ft to 37 ft
Minimum	5 ft to 6 ft
Street Edge/Sidewalk Zone	
Desirable	6 ft to 10 ft
Minimum	3 ft to 4 ft
Building Frontage Zone	
Desirable	6 ft to 10 ft
Minimum	5 in to 2 ft

**Data for this study were compiled from guideline, ordinance, and report materials. A cross section of government agencies from eight states, research organizations, and various media publications comprise the source material used in the final analysis.*

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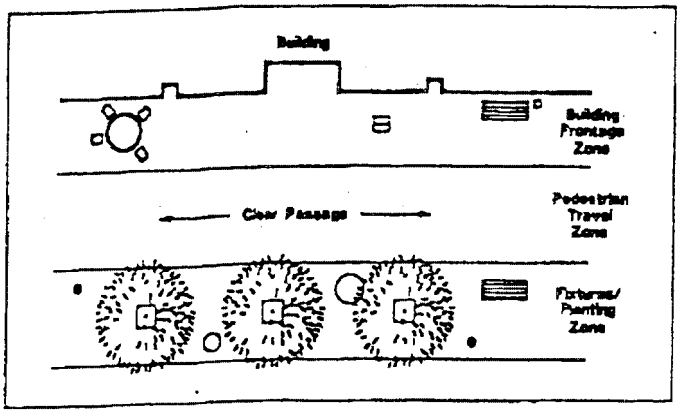
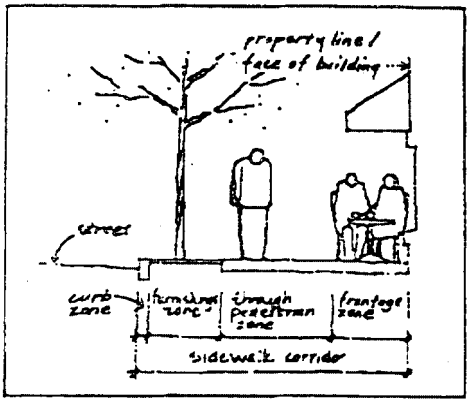
This survey supplements the Streetscape Elements Survey (Fall 2003), which provided examples of both street and sidewalk dimensions in nearby urbanized areas. A copy of this survey is attached and includes new material from this study.

SUMMARY OF FINDINGS

The below figures illustrate the concepts of passive and active space incorporated into the design of sidewalk facilities. By applying three separate zones, areas are created for pedestrian travel, rest, and socializing activities.





Sources: *Pedestrian Facilities Guidebook*, Washington State. *Portland Pedestrian Design Guide*, Portland, Oregon.

The study uses an urban classification system to group standards based on the type of uses supported by the streetscape. The findings reflect the need to separate public sidewalks into functional spaces as they relate to three independent zones. These will be referred to as the pedestrian zone, the street edge and sidewalk buffer zone, and building face zone. The attached table details the standards identified by design experts and in various urban areas.

The widths of sidewalks in mixed use urban areas between the curb and building face range from 8 feet to 37 feet. However, most are between 10 and 20 feet. For the unobstructed walkway, most pedestrian zones range from 6 to12 feet. The majority of zones buffering these walkways from roadway range from 4 to 6 feet. Additionally, space directly fronting a building edge can range anywhere from 5 inches to10 feet depending on need. Collectively, these figures describe standards for an overall range between 10 ½ to 28 feet be used in design of sidewalk facilities in urban areas with a more common range yielding between 10 and 20 feet as mentioned above.

A brief description of each zone follows:

PEDESTRIAN ZONE

A pedestrian zone acts as the exclusive walkway space for unobstructed travel and serves the mobility needs of users. At the very minimum, widths of 4 to 6 feet were recommended in the

study and reflect 34% of sources surveyed. Sidewalk widths of a minimum 5 feet were cited as necessary to accommodate the travel of two people walking side-by-side. In most accounts, where pedestrian activity is more intense, the need to establish even wider standards is noted. A range of 8 feet to 20 feet reflects this need among more intense urban land uses and accounts for 61% of urban areas in the study. There were also two outlier figures of 30 and 37 foot sidewalk widths. Total sidewalk widths below 8 feet are typically outside of major mixed-use commercial areas and are included for reference.

STREET EDGE & SIDEWALK BUFFER ZONE

The street edge and sidewalk buffer zone serves to create a barrier between roadways and pedestrian traffic. Passive activity areas may be carved from these areas providing opportunities for rest as well. Based on minimum and desirable width figures, 76% of the survey recommend allocating four to six feet of public space to this treatment. Benefits sited for its inclusion range from providing a higher level of comfort for pedestrians to sighting of pedestrian obstructions such as light poles, road signage, and bus shelters. These spaces are also mentioned as ideal for snow storage as well as aid in the prevention of pedestrians being splashed with elements within roadways.

BUILDING FRONTAGE ZONE

A building frontage zone allows the opportunity to project expressions of retail uses beyond the building face and into the public realm. The survey reflects a growing focus on the separation of this area. Two interesting standards emerge. First, a minimum width of 5 inches to 2 feet can be used to achieve the purpose of the zone. Second, where it is desired, these widths can range from 6 to10 feet. These dimensio ... ..d be utilized for the location of outdoor cafes or vending operations. Examples are illustrated in the accompanying attachment.

Further, the survey alludes to the flexibility built into the placement of each zone. A hierarchal balance within these public spaces is achieved through the location of each zone in the most ideal right-of-way. This characteristic allows streetscape design to adapt to the many constraints imposed upon specific sights. The recommended ranges between minimum and desirable standards for each zone further reinforce this trait found throughout the survey.

Attachment: Sidewalk Standards Survey
Attachment: Streetscape Elements Survey

SIDEWALK STANDARDS SURVEY

SOURCE	Condition/Area/Street Type	Pedestrian Travel Zone Exclusive Pedestrian Travel Way		Street Edge/Sidewalk Buffer Zone Utility Fixtures/Planting/Furniture		Building Face Zone Outdoor Seating/Retail Expressions		Combined Standard		Illustration Figure
		Minimum	Desirable	Minimum	Desirable	Minimum	Desirable	Minimum	Desirable	
Americans with Disabilities Act	Minimum clear passage one wheelchair	4 ft						4 ft		
DeChiara and Koppleman proportional width to projected user volume	Minimum sidewalk width for two way traffic	4 ft	8 ft					4 ft	8 ft	
Utah League of Cities and Towns- Town of Eagle Mountain, Utah	Areas other than retail, service commercial, and mixed use	4 ft						4 ft		
Dan Nozzi-Wenk and Principals of New Urbanism	Minimum width for unobstructed walkway	5 ft						5 ft		
Americans with Disabilities Act	Minimum clear passage two wheelchair	5 ft						5 ft		7
Dan Burden- Walkable Communities, Inc.	Minimum requirement for two people walking side by side	5 ft	8 ft					5 ft		7
Colorado Springs, Colorado Mixed Use Development Design Manual	Minimum width mixed use development	6 ft						5 ft	8 ft	3
Arlington County, Virginia	Minimum width in low density single family arbords	4 ft						4 ft		13
Arlington County, Virginia- Walk Arlington	Minimum width in medium density townhouse and small commercial areas	6 ft		2.5 ft	4 ft			8.5 ft	8 ft	
U.S. Department of Transportation (FHWA)	Local or collector streets- clear unobstructed width	5 ft		2.5 ft	4 ft			8.5 ft	10 ft	
Puyallup, Washington	Minimum width- commercial areas	8 ft		2 ft				7 ft	8 ft	
U.S. Department of Transportation (FHWA)	Along parks, schools, and other major pedestrian generators	8 ft	10 ft					8 ft		
Dan Burden- Walkable Communities, Inc.	High pedestrian volumes in commercial and school districts	8 ft	12 ft	4 ft	8 ft			8 ft	10 ft	2
Albemarle County, Virginia	Minimum width commercial areas	8 ft						8 ft	12 ft	
Sacramento, California Transportation & Air Quality Collaborative	Mixed use/office/multifamily	8 ft						8 ft		
The Institute of Transportation Engineers (ITE)	Minimum width for unobstructed walkway	5 ft						9 ft		
Utah League of Cities and Towns- Town of Eagle Mountain, Utah	Retail and service commercial and mixed use areas	10 ft		4 ft	6 ft			9 ft	11 ft	
Portland, Oregon Pedestrian Design Guide	Recommended configuration of sidewalk corridor where street ROW is < 80'	3 ft		4 ft		.5 ft		10 ft		
U.S. Department of Transportation (FHWA)	Arterial or major streets- clear unobstructed width	8 ft		4 ft	6 ft			10 ft		17,18
Washington State Pedestrian Facilities Guidebook	Minimum width-urban center/business district (principal/minor arterials: 64ft to 100ft)	8 ft	10 ft	3 ft	10 ft	2 ft	10 ft	10 ft	14 ft	
Dutchess Land Conservancy, Inc.- New York	Minimum width-commercial areas	8 ft		4 ft	10 ft			10 ft	16 ft	17
Annapolis, Maryland-Street Tree Plan	Minimum sidewalk for urban areas	8 ft		2 ft				10 ft		
Portland, Oregon Pedestrian Design Guide	Recommended configuration of sidewalk corridor where street ROW is 60'	8 ft		4ft		.5 ft		11 ft		18
Local Government Commission	Street design connecting town centers and neighborhoods- 82 ft ROW	5	6	6				11	14	17
Anton Nelessen-sliding scale for width based on numbers of travelers	Minimum width for four (4) people walking side by side	11.6 ft						11.6 ft		16
Rockville Town Center Design Guidelines	Maryland Ave. west side (formerly Market St.)	12ft						12 ft		19
Portland, Oregon Pedestrian Design Guide	Recommended configuration of sidewalk corridor where street ROW is 80'	8ft		4 ft		1 ft	8 ft	12 ft		18
Rockville Town Center Master Plan	North Washington Street walk	12 ft	16 ft					12 ft	16 ft	19
City of SeaTac, Washington	Streets designated as major pedestrian corridors	12 ft	16 ft					12 ft	16 ft	
U.S. Department of Transportation (FHWA)	CBD areas	8 ft	12 ft	4 ft	6 ft			12 ft	16 ft	
Duany Plater-Zyberk SmartCode- T5 Urban Center/ T5 Urban Core Zone	Standard street/avenue/boulevard	8 ft	16 ft	4 ft (continuous strip)	6 ft			12 ft	22 ft	
Duany Plater-Zyberk SmartCode- T5 Urban Center/ T5 Urban Core Zone	Commercial street/avenue/boulevard	12 ft	24 ft	4 ft	6 ft			12 ft	24 ft	
Anton Nelessen-sliding scale for width based on numbers of travelers	Minimum width for five (5) people walking side by side	13 ft						13 ft		
Arlington County, Virginia- Walk Arlington	Minimum width in high density County Metro corridors (mixed use/commercial areas)	10 ft		4 ft	6 ft			14 ft	18 ft	
Smart Growth Network-Reid Ewing	Minimum width for two couples passing-high volume location	10 ft		2.5 ft		1.5 ft		14 ft		
Washington, District of Columbia- Downtown Streetscape Regs.	Minimum widths for pedestrian movement and street tree planting-Downtown BID	10 ft		4 ft				14 ft		
Local Government Commission	Street design providing scenes and space for mixed commercial and mixed- 88 ft ROW	8		6				14 ft		17
Midtown Alliance- City of Atlanta, Georgia	Minimum sidewalk width	10 ft		5ft				15 ft		
American Planning Association- Jim Schutz and Kelly Kline	Width to accommodate flexible retail space patios or outdoor dining	15 ft						15 ft		
Portland, Oregon Pedestrian Design Guide	Recommended configuration of sidewalk corridor where street ROW is 80'	8 ft		4ft		2 ft	8 ft	15 ft		18
Rockville Town Center Design Guidelines	Maryland Ave. pedestrian zone with sidewalk (west side)	19 ft		6 ft				31 ft		19
Rockville Town Center Master Plan	Maryland Ave. pedestrian zone with sidewalk (west side)	19 ft		6 ft				31 ft		19
Downtown Silver Spring, Silver Spring, Maryland	Ellsworth Dr. between Fenton St. and Georgia Ave.	5 ft		8 ft		10 ft		21 ft		19
Bethesda Row, Bethesda Maryland	Woodmount Ave. between Bethesda Ave. and Elm St.	5 ft		7.3 ft		10 ft		22.3 ft		8
Pennsylvania Avenue, Washington, D.C.	Sidewalk widths to handle high bus operations	30 ft						30 ft		
South Boston, Massachusetts- Midway Street Project	Grand boulevard width- shops, cafes, and high pedestrian traffic	37 ft						37 ft		

Other Standards:

Dan Burden- Walkable Communities, Inc.	Highly successful downtowns (not defined)	50/50 ratio of sidewalk to street	4 ft	6 ft	50/50 ratio of sidewalk to street
American Institute of Architects	Street standard proportional to building size for an enclosed and intimate scale	1:3 building height to street width (3 increments of street/sidewalk width for every 1 increment of building height)			1:3 building height to street width

SOURCE: Data for this study were compiled from guidelins, ordinance, and report materials. A cross section of government agencies from eight states, research organizations, and various media publications comprise the source material used in the final analysis.

CREATING A VIBRANT CITY CENTER
BY CY PAUMIER
URBAN LAND INSTITUTE, 2004

CHAPTER 7

Pedestrian Realm

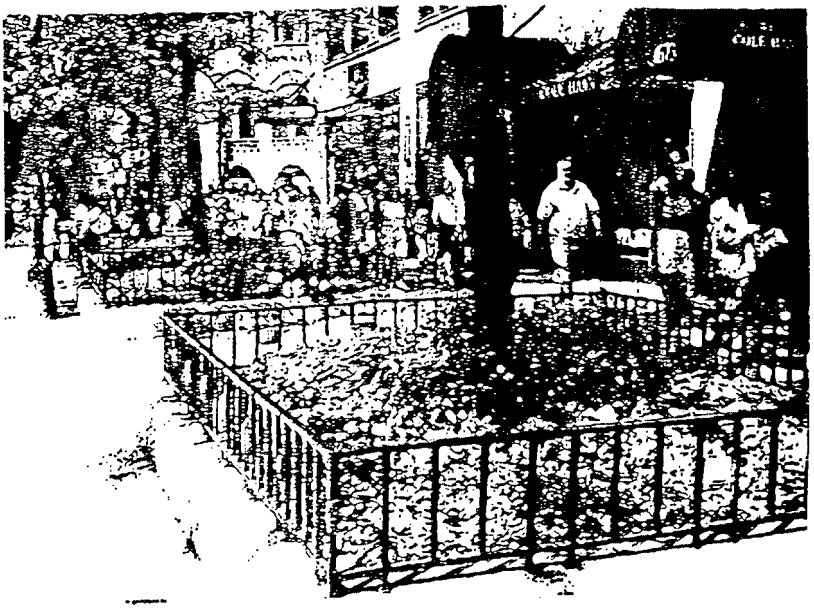
To attract a diverse and concentrated mix of uses and foster economic interaction among these uses, the city center must encourage pedestrian movement through the central core. Consequently, a key element of revitalization planning is to establish an attractive system of pedestrian connections.

Planning of the city center pedestrian system begins with recognition of and improvements to the core area's central spine—the street where the greatest concentration of retail activity already exists and where new retail uses should be located. But a successful central area should have more than one pedestrian-oriented shopping street: needed is a system of pedestrian connectors linking major activity anchors to the spine and to one another.

System Components

The primary elements of the city center's pedestrian network should be on the street, sharing the rights-of-way with vehicular traffic. Developing on-street linkages is the most practical and cost-effective approach to creating this pedestrian network because it works within the framework already established by existing development patterns, maintains business visibility, and eliminates the need for street closures.

Morrison Street, Portland, Oregon.



Establishment of a high-quality pedestrian environment along the central spine of the city center contributes to its physical and economic regeneration. In Chicago, development of the streetscape and seasonal plantings on North Michigan Avenue has established a high-quality image for the retail and commercial businesses on the street.

Because most of the city center's pedestrian system consists of on-street components using shared rights-of-way, the system must be planned in coordination with the classification of streets as the spine, primary connectors, secondary connectors, and through-block connectors.

The Spine

In most cities, the central spine will accommodate both pedestrian and vehicular traffic; in certain circumstances, it also might be designed as a transitway or a pedestrian mall. In all cases, however, this spine should be readily identifiable as the city center's primary corridor by its concentration of retail activity and its streetscape treatment. It should constitute the central area's 100 percent retail location, stand out as the most richly designed component of the pedestrian system, portray the city's central image, and be the focus of activity.

Ideally, major anchors should be located at each end of the spine to maximize the volume of pedestrian use along its length and to create an attractive retail setting. In larger cities, such a spine might encompass a sequence of "anchor-to-anchor" settings. The central spine should include a balanced mix of retail, office, hotel, entertainment, and residential uses to ensure a cycle of activity that extends to

Outdoor cafés enrich and enliven pedestrian walkways in the city center. This street in Toronto, Canada, shows the ambience created when restaurants are permitted to use a portion of the walkway for outdoor dining. Most cities receive rental income for use of this valuable public space, providing funds that can be used to maintain and enhance the pedestrian realm.

evenings and weekends. In addition, the spine is the priority location for street vendors, cafés, outdoor performances and displays, and for special design components, including paving and streetscape elements, public art, and water features.

The central spine can be as vital in a small town as in the central area of a large city, with creation of a high-quality pedestrian environment stimulating private investment in the retail shops and storefronts in the community's town center.

Primary Connectors

The primary connectors are the streets that serve as major pathways for pedestrians. As the name implies, they provide the primary physical connections among the city center's activities and amenities and, through their streetscape treatment, create a clear visual structure for the central area. Like the spine, they should be designed to encourage pedestrian activity. Primary connectors, in turn, can be the amenity spines of subdistricts outside the core, providing a catalyst for private investment and new development.

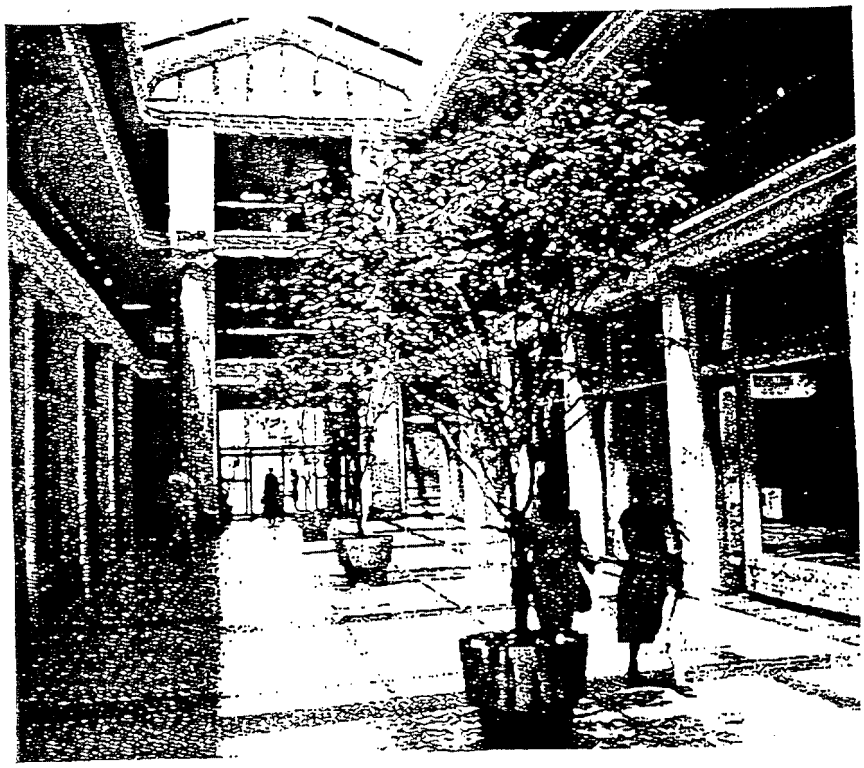
Secondary Connectors

Secondary streets, the remaining streets within the city center core, usually are used as service arteries, transit corridors, and access roads leading to major parking areas. Although they are less important for pedestrian circulation than the spine or the primary connectors, their streetscape treatment should provide at least a minimum level of comfort for people on foot.

Through-Block Connectors

Through-block connectors are pedestrian pathways located at street level but off the street that provide shortcuts through development blocks. They function most effectively when they complement and reinforce the spine and primary connectors by running perpendicular to and providing links between them. Where the development pattern creates long blocks, through-block connectors can become especially important features of the pedestrian system by adding to the convenience of movement within the core. They can also function as linkages between parking and the major retail streets. Such through-block connectors add texture, richness, and diversity to the city center experience, and also can expand the potential for retail activity within the core by creating new retail frontage.

The historic arcade in Norfolk, Virginia, which provides a through-block link between two important streets in the city center, is used by many people to reach their destinations in the office district or on the waterfront. Most through-block connectors were designed as retail arcades, but the lack of adequate pedestrian traffic can make it difficult to sustain retail uses.



This pedestrian-oriented street in Dusseldorf, Germany, illustrates how simplicity and consistency in streetscape design contributes to a high-quality shopping experience (above). The streetscape elements, trees, benches, and flowers are usually located in the curbside planting zone so that the amenities do not distract from the visibility and appeal of the storefronts (below).

Design Considerations

The primary considerations in designing the components of the city center pedestrian system are use of the streetscape to create an attractive and comfortable setting for pedestrian activity, appropriate allocation of space to pedestrians and vehicles in shared rights-of-way, and creation of a positive relationship between the street and the development that defines its edge.

Streetscape

Streetscape treatment on the spine and primary connectors should create a unified image and defined visual structure for the city center, as well as an inviting and comfortable pedestrian environment. Simplicity and consistency are the keys to design success: simple design concepts executed with the highest-quality materials hold up best over time in terms of both maintenance and visual appeal.

The design of the streetscape should emphasize the linear continuity of the street space and enhance its potential for flexible use. The streetscape should establish an attractive foreground for businesses and a setting for other city center activity by creating an environment that is visually satisfying but that does not detract from the visibility and appeal of storefronts.

Walkway Width

A walkway pavement width of 20 feet (six meters) is desirable along the pedestrian spine and primary connectors. That width provides for both a 12-foot (3.7-meter) pedestrian zone adjacent to storefronts—to accommodate both window-shopping and through movement—and an eight-foot (2.4-meter) amenity zone adjacent to the curb. A walkway 20 feet (six meters) wide will allow seating, outdoor cafés, and public art to be incorporated into the streetscape without encroaching on the pedestrian zone. Streets used for mass transit require an amenity zone that is an additional ten to 15 feet (three to 4.6 meters) wide to accommodate queuing areas and shelters at the curb. Where the potential volume of pedestrian use is lower—i.e., secondary connectors or streets in smaller cities—walks that are more than 14 to 16 feet (4.3 to 4.9 meters) wide can dilute the sense of vitality and activity in the core.

Walkway Paving

The use of special paving on the spine and primary streets has a tremendous impact on the sense of amenity and visual richness. When used consistently, special paving also provides a visual connecting element that reinforces the pedestrian system. Although its initial installation cost is higher than for poured-in-place concrete, the durability and impact of special paving make it worth the expense. It is important not to lose sight of the first rule for all paving: it should be walkable in all weather for people of all ages in all types of footwear; uneven paving, shallow curbs, and steps can create safety hazards and discourage pedestrian activity.

A single special paving material should be selected for use throughout the pedestrian network. It can be used on the full width of the walk along the spine from storefront to curb, or in the curbside amenity zone as an accent to complement concrete walks on primary connectors. On all secondary connectors, plain concrete paving is recommended. Special paving also can be used to define pedestrian crosswalks to make them highly visible to motorists. In colder climates, special attention should be paid to whether snow removal equipment might damage modular paving in the crosswalks. The most successful pedestrian crossings are those used throughout Europe created with bold stripe patterns applied to the street paving to attract the attention of motorists.

Many cities have discovered the benefit of using concrete and clay pavers on city center walkways. In Washington, (above) developers are required to use two-by-three-foot (0.6-by-0.9-meter) paving blocks when replacing existing poured-in-place concrete. The scoring pattern and color used in the pavement on State Street in Chicago (left) is an environmental amenity that encourages pedestrian activity on this retail corridor.

Wide setbacks along Pennsylvania Avenue in Washington provide space for a double row of street trees and sites for street vending and outdoor cafés (above). Parisian-style benches and colorful paving add to the richness of this ceremonial street (below).

Plantings

Canopy street tree plantings are one of the city center's most important streetscape features. They create a consistent, high-quality foreground for the motorist's perspective and establish a sense of separation between the street's traffic lanes and the pedestrian zone. In addition, street trees provide shade, create a human scale that tempers the large buildings, and enhance pedestrian comfort without obscuring the visibility of storefronts.

Although raised planters have been used extensively to increase the sense of separation between the walkway and the adjacent street, they limit the amount of space for pedestrians and the potential for multiple uses for the curbside amenity zone. In addition, they can give pedestrians the sense that the street is cluttered and add to streetscape construction and maintenance costs. For these reasons, their use is not recommended unless they provide the only way to create planting areas over subsurface vaults or utility lines. If colorful floral accents are desired as part of the streetscape, movable planters can be provided at intervals within the curbside zone, but it is essential that an adequate annual budget be provided for seasonal planting and maintenance.

Street Furniture

The use of well-designed furniture throughout the central area helps to establish a unifying theme. Regeneration planning must incorporate criteria for the selection and use of streetlights, seating, trash receptacles, newspaper vending machines, movable planters, transit shelters, tree grates, and vendor carts. These criteria also should guide the design and location of regulatory and directional signs to minimize their visual impact and enhance legibility. Also needed are criteria that set standards for the use and location of public art, such as sculptures, murals, and banners.

Pedestrian-scale lighting, employing 12-foot-high (3.7-meter-high) light standards, should be used wherever possible to establish a high-quality amenity along pedestrian streets. These lower, human-scale lights can be used between intersections lit by standard-height street-

lights to provide a uniform illumination level that increases security without creating harsh light or glare.

While ample, well-designed seating is important in order to increase the level of pedestrian comfort, the curbside is not always the best location for it. Except for bus stops and outdoor cafés, areas adjacent to the walkway but set back from the street are more appealing sites for seating than the curbside amenity zone. As part of the design of buildings, plazas, and parks, seating opportunities can be provided using ledges, steps, low walls, movable tables and chairs, and conventional benches.

Streetside seating can best be accommodated where the pedestrian amenity zone allows sufficient space for benches arranged perpendicular to the roadway. This arrangement provides opportunities for people-watching; benches facing away from the pedestrian zone and toward the street are only useful for transit patrons. Simply designed wood or steel benches that combine comfort and durability should be selected. If the funding is not available to purchase the highest-quality benches, it is probably best not to use them on the street at all.

Dedicated Pedestrian Streets

In the 1960s, many architects and planners believed that complete separation of pedestrian and vehicular movement would create the most attractive environment for people and best serve the city center retailers. Cities in the United Kingdom, continental Europe, and Australia developed dedicated pedestrian streets to serve their expanding city center retail markets. In North America, the pedestrian mall was introduced to help save declining retail districts that were being outperformed by the suburban malls, which offered pedestrian amenities and free parking.

The narrow pedestrian streets in York, England, (left) are inviting due to the scale of the space, the presence of retail shops, and the high quality of the historic buildings. In Bayreuth, Germany, (right) the wide rights-of-way provide space for produce markets, street vendors, and outdoor cafés. The activities and programmed events that take place in these dedicated pedestrian streets are critical to their success.

The Third Street Promenade in Santa Monica, California, was designed to emphasize the qualities of a traditional street, a sense of human scale, and the linear continuity of the public right-of-way. Thousands of people from the Los Angeles area are attracted to this high-quality pedestrian street that provides residents and visitors with an interesting mix of retail and entertainment choices.

But subsequent studies of how people use urban spaces show that the exclusion of vehicular traffic or the separation of vehicular and pedestrian systems is not necessary or even desirable. Indeed, removing all vehicular traffic from selected streets or giving the street over to vehicles and creating a separate system of skywalks for pedestrian movement can be counterproductive.

Closing the city center's retail spine to vehicles and converting it to a pedestrian street was an inadequate response to the broader economic problem of how to strengthen the center's retail uses. The effort often failed not because the idea of enhancing the central area's identity as a place for people was misguided, but because the basic concept ignored a number of fundamental requirements for city center retail regeneration. These requirements include:

- new activity generators to draw more people to the central area, establishing a new base of market support;
- a merchandising mix that is more competitive with suburban centers;
- links among all the city center's major generators to foster market synergy among uses; and
- street access and visibility, which are eliminated when a mall is created.

Although the pedestrian mall concept attracted shoppers, it failed to keep them coming back because its land use and retail mix were weak. Many pedestrian streets also failed largely because their design—especially in the earlier years—ignored the special character of the urban street. Instead of emphasizing the traditional street's architecture, sense of human scale, spatial enclosure, and linear continuity, the design of the pedestrian street often took the elements that characterized the public spaces of the suburban shopping center—berms, informal planting areas, raised planters, fixed seating, fountains, and play sculptures—and used them to fill the street space.

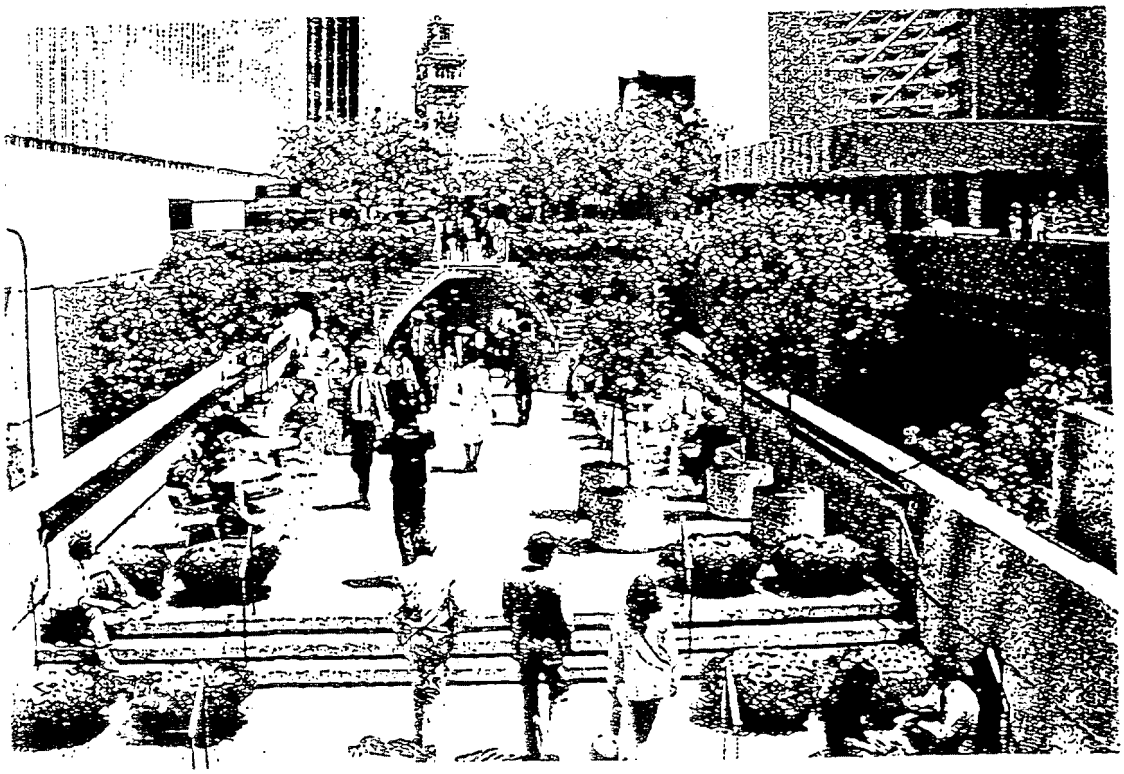
Often, the scale of the pedestrian space created by closing the street to vehicles presented a problem. Compared with a traditional shopping area, the pedestrian street, when vehicles were excluded, seemed to be out of scale with the volume of pedestrians, leaving it looking empty rather than lively and bustling with activity. Many pedestrian streets also failed on a more detailed design level because they used paving materials, street furniture, and planting approaches that impaired the space's flexibility for use for a variety of functions, created a sense of visual clutter, and ignored the goals of durability and maintainability.

The application of suburban design concepts to city center spaces was destined to fail because it did not recognize the essential characteristics that make the urban street an attractive and social space. Most U.S. cities removed their pedestrian malls when public officials and property owners realized the need for accessibility and visibility. This failure carries two important lessons for designers of the city center's pedestrian system:

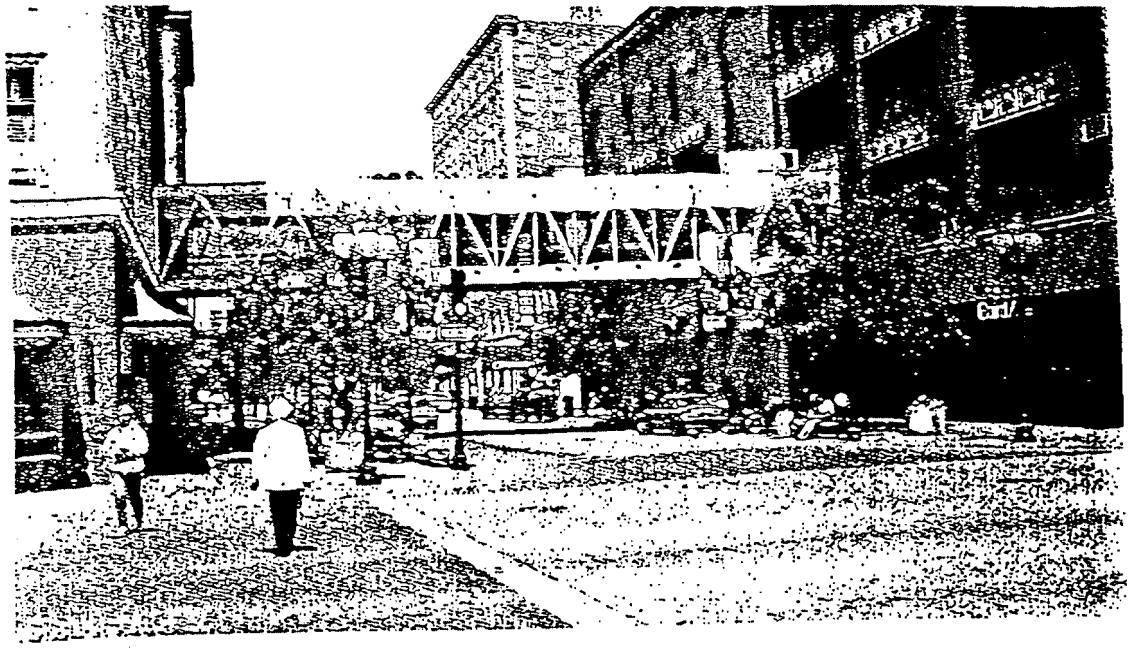
- It is dangerous to import imitative solutions unless the basic conditions that contributed to their original success are clearly present in the city center.
- The special characteristics and resources of the city center can enhance its identity, its sense of place, and its competitiveness without such imports.

Skywalk Systems

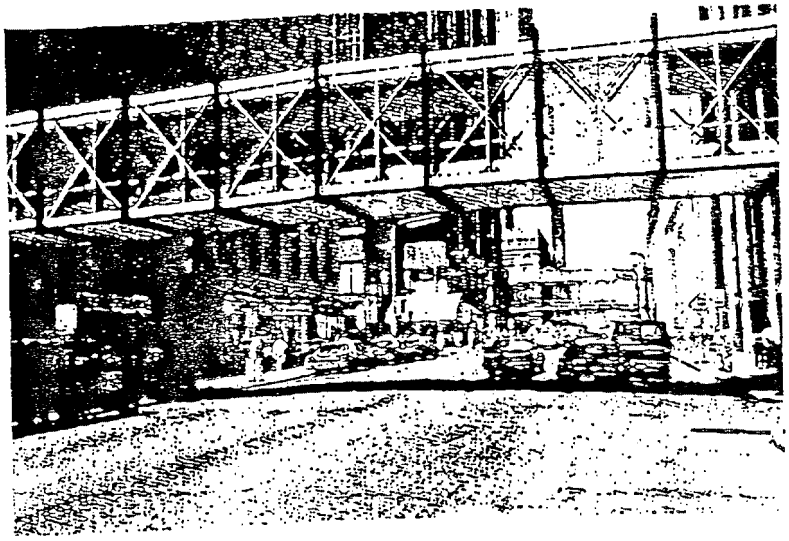
In the 1970s, a popular strategy to reduce conflicts between vehicular and pedestrian circulation in congested city centers was the grade-separated skywalk system. This proposed solution did not involve limiting traffic on certain streets to give the pedestrian priority, but rather luring most of the pedestrians off the street onto elevated skyways connecting the upper levels of the buildings. Grade-separated systems—which can also come in the form of tunnels—do offer some benefits that may be difficult to achieve by other means, including provision of pedestrian safety, as well as creation of climate-controlled walkway connections, of particular value in northern cities during the winter. But the serious disadvantages of such systems usually far outweigh these



This pedestrian bridge in San Francisco was designed to look like and have the feel of a traditional street. The introduction of café tables and chairs and colorful planters on the walkway adds to the positive experience of crossing between two second-level pedestrian plazas. In favorable climates, pedestrian bridges do not have to be enclosed.



Most pedestrian bridges have been constructed to provide climate-controlled walkways between office and retail development and related parking. In Cedar Rapids, Iowa, (right) and Minneapolis, Minnesota, (below) the second-level walkways are part of a city center skyway system. These interconnected walkways are widely used in northern U.S. cities, but they have hurt street-level retail business.



virtues. Among the disadvantages are the following:

- Development of a grade-separated system almost always depends on the willingness of private property owners to provide public corridors between or within their buildings and to help fund their construction. This frequently means that key connections are not developed in a timely manner and that public access is limited to particular segments.

- Significant problems can arise involving access to the skyway system from street level, the visibility of entrance points, and connections between buildings with different elevations. Without suitable access, use of the entire system will be limited. Also, escalators or elevators must be provided to assist in making vertical connections. A number of cities have eliminated their skywalks because of the high cost of operating and maintaining the mechanical systems associated with the escalators and elevators.

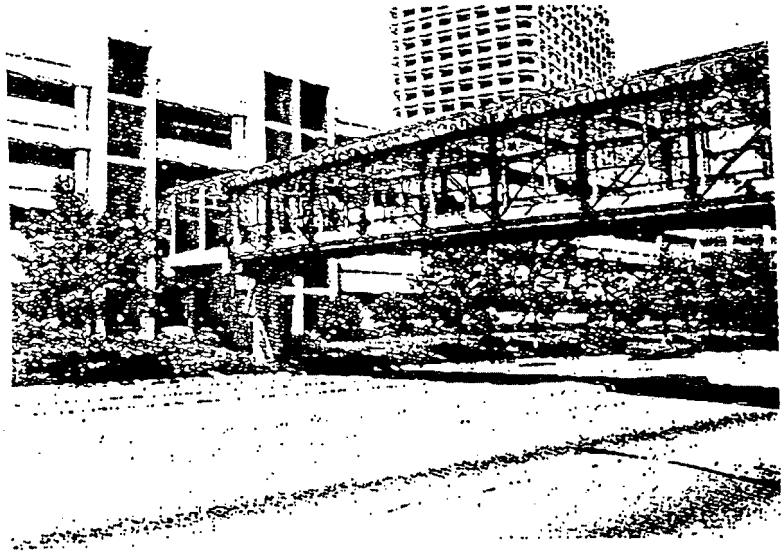
- It is extremely difficult to maintain the architectural integrity of older buildings when skywalks are added. Skywalk bridges also block traditional view corridors along the streets, diminish the perception of connections between subdistricts and anchors, and weaken the overall visual integrity of the city center's urban personality.

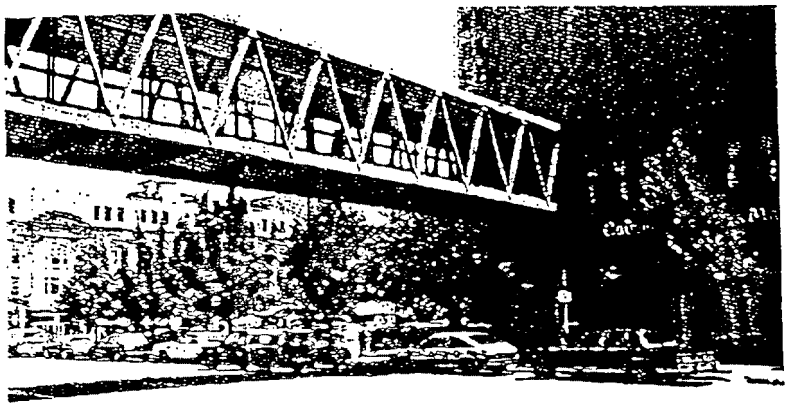
- Skyway systems can present security problems. Segments may not be visible from the street and they often lack active storefront uses, making them difficult to patrol and making it hard for pedestrians to gauge their own safety. If the level of security is perceived to be low, people will not use the system.

- The most powerful argument against development of grade-separated pedestrian systems: they sap vitality from the street-level environment. Skywalk and underground systems tend to siphon retail and pedestrian activity from the street, isolating and ignoring the features that have the greatest potential to give the city center a lively atmosphere and sense of vitality.

Unless the intensity of pedestrian use and the potential support of retail expansion are especially strong, it is difficult or impossible to merchandise fully both at the street level and the skyway or underground level. Grade-separated systems ultimately can undermine the goal of creating a better street-level environment. Cities that already have lower intensities of street activity are especially vulnerable. Even in larger cities, the volume of pedestrian use needed to support continuous activity both on the street and within the grade-separated systems is usually found only in a small part of the city center.

Instead of separating pedestrian and vehicular flows through the use of skywalks or tunnels, city center planning should establish an appropriate balance between pedestrians and vehicles in the corridors they share. This means giving priority to the pedestrian on the spine and the primary connectors while providing a minimum number of pedestrian amenities on all other streets within the city center.





View corridors along important image streets can be impaired by construction of a major pedestrian bridge over a street right-of-way. The bridge in Norfolk (top) and the elevated walkway in Cedar Rapids (above) cross over important image streets that motorists use to enter the city center.